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ABSTRACT

Designed for a 90- or 180-day middle/junior high school career orientation course, this student activity book and the accompanying teacher's guide focus on how personal needs can be met in the career world. Course goals listed are as follows: (1) to increase understanding of self by helping students analyze personal interests, abilities, values, and needs relative to their life roles, (2) to become aware of work styles (the ways in which people work) and how they are related to the personality characteristics, (3) to provide orientation to the fifteen U.S. Office of Education occupational clusters and their relationship to work modes, and (4) to provide opportunities for the synthesis of self, work styles, and cluster interests relative to the selection of career-related experiences both in and out of school. Each of the fifty-one lessons contains some cognitive material (readings, notes, etc.) and one or more tasks (learning activities) providing a wide range of flexibility in student participation including individual and group work. Some include written exercises. Many are psychomotor in nature. Framework for the course is based on six work modes or styles (mechanical, conventional, enterprising, social, investigative, and creative) and on the fifteen USOE occupational clusters. Appended are a list of vocabulary words identified in the various lessons, a glossary, lists of 4-H activities, Scout badges, and hobbies, a list of reading resources, and other sources of occupational information. (JT)

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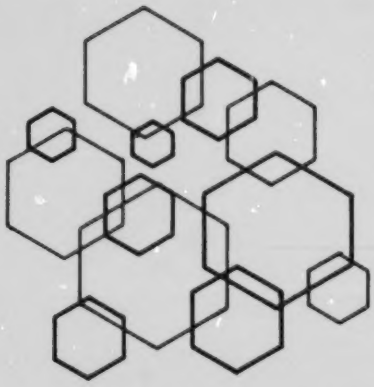

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Clusters Approach to Career Orientation

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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"A World of Choice-Careers & You"

STUDENT WORKBOOK

CE014091

Preface

Would you like to make an ID card? Take part in a play? Plan a day care center? Build a greenhouse? Practice banking? You will experience all of these as part of Careers and You, in activities that will acquaint you with the world of work.

A World of Choice: Careers and You will be exciting to you because it relates the career world to you and your own personal characteristics. There will be activities to help you decide who you are and what you are like. Others will involve you in experiencing various career roles.

All of the activities will help you make tentative or experimental plans for the future. You will soon be thinking about choosing courses, joining clubs, and taking part in community activities. It's not too soon to be thinking about who you are and who you want to become.

Activity 1

A World of Choice: Careers and You

Vocabulary Words

unique
ancestors
work styles
career
occupation
communicate
self-awareness

Introduction

This course has been developed especially for students of your age to help you think about the career world before you need to make big decisions. Throughout the course, you will be involved in doing things that relate to work and leisure. These activities will help you make better choices for yourself.

The course is divided into four parts:

a. Self: These activities will help you become more aware of yourself and why you are a unique individual. You will look at the two most powerful effects on your personality--*heredity*, which is the influence of your ancestors, and *environment*, which is the influence of your surroundings. You will talk about your interests and abilities as part of your self-awareness. It is also important to think about how you communicate this personality to others.

b. Mode: This section will introduce you to the different ways in which people work. You will find "modes" or work styles that suit you best because of your special personality. There are six of these different ways of working:

mechanical - work done with tools, equipment, and machinery
creative - artistic work done without a pattern or routine
social - work done by helping, talking, and being with other people
conventional - routine work done by following a pattern
enterprising - work which involves leading and persuading others
investigative - work that involves reading, problem solving, planning, and writing.

c. Clusters: This part of Careers and You will show you where to find the different work environments in the real world of work. You will find that all possible occupations have been put into fifteen groups called clusters. As you look at these groups of occupations, there will be an interesting activity to help you imagine what it is like to work in each.

1. *Agribusiness and Natural Resources*
Agribusiness production, agribusiness supplies, agribusiness mechanics, agribusiness products, horticulture, and natural resources occupations

2. *Business and Office*
Clerical, secretarial, data processing, management, real estate

insurance, and finance occupations

3. *Communications*
Electronic communications, broadcasting, publishing, audio-visual production, and language occupations

4. *Construction*
Carpentry, painting and decorating, heating jobs, roofing, glazier, plastering, dry-wall installers and masonry occupations

5. *Consumer and Homemaking*
Foods and nutrition, housing and home management, clothing, textiles and fashions, and family and child development occupations

6. *Environment*
Occupations related to land use, pollution, disease prevention, and natural resources control

7. *Fine Arts and Humanities*
Occupations related to religion, architecture, languages, drama, and art

8. *Health*
Administration, disease prevention and control, treatment, rehabilitation, health education and communication, and medical research occupations

9. *Hospitality and Recreation*
Food, lodging, and related occupations, also sports and leisure activity occupations

10. *Manufacturing*
Management, personnel technology, engineering, production technology, and production occupations

11. *Marine Science*
Marine research, exploration for minerals, chemicals, petroleum and natural gas, marine technology and engineering

12. *Marketing and Distribution*
Management, sales promotion and training, research, purchasing, selling, distribution, insurance and financing occupations

13. *Personal Services*
Human body, home and property, business and economic service occupations

14. *Public Services*
Occupations related to education, law enforcement, public health, public recreation, and social services

15. *Transportation*
Occupations related to moving people and objects on land, in the air and on the waterways

d. Planning: The planning phase will let you apply what you have learned about yourself, about work modes and about occupational clusters to your plans for future activities. You will have an opportunity to visit classes preparing for certain careers. You may interview people employed in jobs you find interesting or visit places of employment. Most important, you will be exploring many of the careers you might dream of having. You will find that a person can express his or her personal interests through a job or through a hobby after hours.

All of these adventures into the world of work will keep you involved in doing and exploring different jobs. The object of exploration is always discovery, and in your case, it means:

- *discovery of self*
- *discovery of the way different tasks "feel" to you*
- *discovery of where these tasks can be found in the real work world*
- *and discovery of the many ways to prepare for going to work.*

Activity 2

Self Awareness

Differences provide us with the personal identity that is so important to each of us. We all reflect both hereditary influences and environmental influences. *Hereditary influences* are those features such as skin color and height which "run in the family." *Environmental influences* are those characteristics we develop because of the people and things which surround us in the places where we live.

For example, your eyes might be brown whether you were born in Europe, Asia or Africa, because the color is inherited. Yet the language you speak might be completely different if you were born on a different continent. What we are is a combination of both these influences--an individual different from every other person.

In order to do what is best for this special individual that you are, you must get in touch with your interests, abilities, skills, and values. A series of activities have been arranged to help you discover who you are and what you are like. By participating in these activities sincerely, you will learn much about yourself and the kinds of careers right for you.

Some of these activities will help *you* discover who you are, while others will help you understand who *others* think you are. What you will be experiencing is the way that individuals communicate with one another.

For Discussion

A name is an interesting distinction that each of us has. Do you know the origin of your name? You might like to try and discover it.

Surnames, or family names, often reflect the influence of environment on us. Some surnames have had occupational meanings, such as Cooper, the person who put metal bands on barrels, and Taylor, a garment maker.

The names Black and Smith are examples of occupations that have been abbreviated, in this case, blacksmith. Another illustration would be Swain, the shortened form of boatswain.

Some surnames show links with animals, plants, food, and other objects. Examples of this might be Horsely, Greenleaf, Rose, Curry, Wheeler, and Skeen.

There are names related more to heredity than environment. A good example is MacDonald, in which "Mac" means "son of." The "O" in O'Conner can mean either "grandson of" or simply "of" (some location).

First names often show the influence of heredity more than environment. Thomas Johnson, II has the same name as his father, and so does Jerry Taylor, Jr.

First names also reflect personality changes since some people choose new names as they grow older. Have you ever known anyone who did?

For More Information:

Loughead, Flora. Dictionary of Given Names.
Withycombe, Elizabeth. Oxford Dictionary of English Christian Names.
Younge, Charlotte. History of Christian Names.

FEDERAL BUREAU OF INVESTIGATION
UNITED STATES DEPARTMENT OF JUSTICE

ILLUSTRATIONS OF VARIOUS FINGERPRINT PATTERNS

PLAIN ARCH

TENTED ARCH

LOOP

LOOP

PLAIN WHORL

CENTRAL POCKET LOOP

DOUBLE LOOP

ACCIDENTAL

The presence or existence of whorls in finger impressions is used as the basis for the determination of the chief or primary classification each whorl appearing in any or all of the ten fingers has a certain arbitrary or fixed value. The addition of the values represented by such whorls and the indication of the total value is known as the primary classification.

Illustrations of the whorl types which are the same as patterns having the figured value are shown on the right of this chart; illustrations of the other types are shown on the left.

(Source: Federal Bureau of Investigation)

40-21

Identification Card

Individual differences are the result of two powerful influences, heredity and environment. A good way to check their importance in your own life is to look at your personality characteristics on an identification card.

TASK 1 ID Card

Purpose:

To make a personal identification card.

Steps:

1. Fill in the information on the ID card.
2. You will complete the card with a photo and/or fingerprints later.

IDENTIFICATION CARD 19__

Name _____

Address _____

_____

Zip

Eye Color _____ Hair Color _____

Height _____ Weight _____

_____

School Grade

_ _

_____

Social Security # Birth Date

Positive Personal Identification

You have completed filling out an identification card. Now you will have the opportunity to finish the card by adding a photo and/or fingerprints.

As early as 1880, there was an interest in fingerprinting as a means of identification. Henry Faulds, working in a Tokyo hospital, and William James Herschel, serving in the Indian Civil Service, both described the uniqueness and permanence of fingerprints. An Englishman, Galton, did research which showed that identical fingerprints were not inherited, but that similar ones could be grouped. He provided a simple classification system. Later, Sir Edward R. Henry developed the arrangement used by the FBI today.

Scientific study has proven that fingerprints provide *positive personal identification*. Not only are the lines on every finger of every human being unique, but the arrangement does not change with growth.

TASK 2 Fingerprints

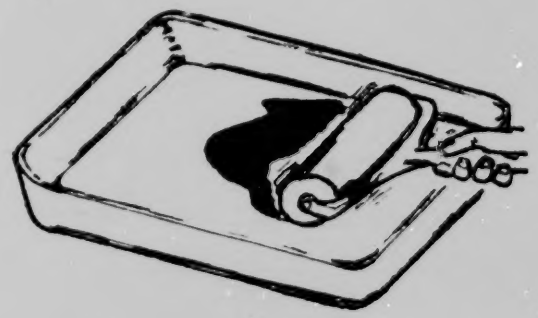
Purpose:

To make a set of fingerprints.

Steps:

1. Select a classmate to fingerprint and ask that person to wash his/her hands.
2. Place pan and identification card on flat surface. Spread a small dab of ink on the pan with the brayer.

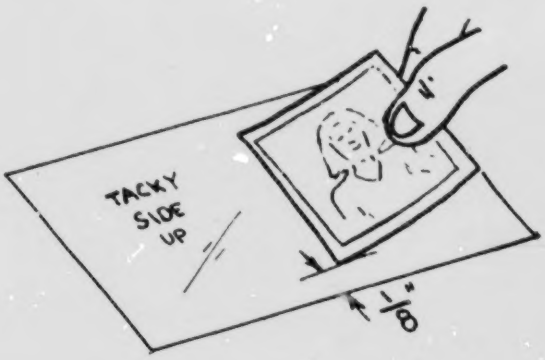
Note: If a photo is to be used, make thumbprints only.



Back of ID Card

Space 1	Space 2
Space 3	Space 4

3. Stand beside your classmate. Take his/her right thumb with both of your hands. Place one side of the right thumb down on the ink pan. Roll the thumb from side to side.
4. On the back of the identification card, find the space for the right thumb marked Space 1. Place thumb in the space and roll the thumb one time across the space to print. Do not roll the thumb back and forth on the card.
5. Find Space 2. Print the right index finger in the same manner.
6. Use Space 3 for the left thumb. Print in the same manner.
7. Use Space 4 for the left index finger. Print in the same manner. Wash hands when finished.
8. Glue photo in place on back of ID card.
9. Cut a piece of contact paper 7" X 8".
10. Place contact paper on flat surface, sticky side up.
11. Carefully place your ID card FACE DOWN near the edge of the contact paper. LEAVE AT LEAST 1/8" SPACE AROUND THE EDGES.



12. Fold the remainder of contact paper over the back side of the ID card.
13. Pull tight and smooth to avoid wrinkles.
14. Trim off uneven edges.

Summary:

Each of us is unique. We *inherit* tendencies to be tall or short, to have blue eyes or brown eyes, but there are many things about us that are the special effects of our surroundings. Our *environment* determines the language we speak, the habits we form, and the values we hold. Our names are one part of us that can show the influence of both heredity and environment.

Questions:

1. What is the value of an ID card?

2. List places or situations where you would be issued an ID card.

3. What unique personal characteristics are given on an ID card?

4. Look at the illustration of fingerprint patterns, and decide which pattern fits yours.

Activity 3

Environmental Influences

Interests

The people you know and the place that you live have an important influence upon you. They determine what is of value to you. One important area of influence is your interests. *Interests* are activities that you enjoy doing. They are the things that you bother to find time to do or learn.

Sometimes your interests are related to your school work. Other times they are more closely concerned with extracurricular school activities or community activities. Always they are concerned with your environment.

Deciding what your interests are is part of the process of defining your personality.

Frequently, it is possible for individuals to match their interests with a particular occupation. However, sometimes people find it necessary to take jobs that are not very interesting to them. If this is so, it may be possible to find a club, group or community activity to satisfy their interests. For example, a person who is talented in music may play in a band off hours and work as a secretary or a construction worker.

Personal Values

Values are those things that you consider important in setting your goals. As a young person, many of the values that are important to you are the same ones important to your family and friends. However, as you enter adolescence and as you progress through high school, you will begin to decide what is really important to you.

To become independent, "your own person," is a very complicated process. An important part of that process is being able to decide what you value and what you want from life.

Many people live life as it happens to them. Others prefer to plan ahead and think of their future happiness.

Discovering what you enjoy and what is important to you are valuable tools for this kind of planning. While decisions can be difficult, it can be very satisfying to feel you really believe your reasons for making those decisions.

Plan to take some classes you will enjoy in school, find out about clubs and community groups, and become involved in new experiences. Then set some goals. For instance, you might take an exploratory course in auto-mechanics and attend the auto club meetings. Then you may decide to become a qualified mechanic by attending the two year auto-mechanic course at a community college. Each one of these steps are important in reaching your life's goals.

Vocabulary Words

adolescence extracurricular activities exploratory course

TASK 1 Interests

Purpose:

To identify your interests at the present time.

Steps:

1. Circle the activities that interest you in the following list.

   1. Participating in sports
   2. Operating a TV camera
   3. Building things
   4. Fixing electrical things
   5. Repairing cars

   6. Customizing cars or cycles
   7. Operating a floor polisher
   8. Reading
   9. Looking at magazines
   10. Doing math problems

   11. Visiting a museum
   12. Comparing samples under a microscope
   13. Solving puzzles
   14. Studying the constellations
   15. Going to a concert

   16. Doing crafts
   17. Performing in plays
   18. Making music
   19. Dancing
   20. Painting a picture

   21. Designing
   22. Writing stories and/or poems
   23. Sewing
   24. Cooking
   25. Knitting

   26. Talking to people
   27. Being a club member
   28. Participating in extracurricular school activities
   29. Taking care of young children
   30. Working on a committee

   31. Planning parties
   32. Making new friends
   33. Going to public gatherings
   34. Going to sports events
   35. Having a debate

   36. Being an officer of a group
   37. Selling things
   38. Meeting important people
   39. Giving talks
   40. Being in school - taking notes

   41. Watching TV - listening to radio
   42. Helping with household tasks
   43. Helping with outdoor tasks
   44. Keeping accurate records
   45. Collecting as a hobby (rocks, stamps, etc.)

   Other interests (fill in)
   46.
   47.
   48.
   49.

2. List any other interests that you have.

3. Discuss how these interests are related to the work modes, the work environments that represent certain personality characteristics.

4. Check which work mode(s) fit your interests:

Mechanical___	___Social
Creative ___	___Enterprising
Investigative___	___Conventional

TASK 2 Values

Purpose:

To recognize personal values that are important to you.

Steps:

1. Circle those values in the list below that are important to you.

Personal acceptance	Power
Religion	Recognition
Health	Success
Family	Happiness

(continued on page 13)

(continued from page 12)

New experiences	Freedom
Material possessions	Honesty
Loyalty	Self-respect
Personal attractiveness	Love

2. Use a different color pen or pencil to star those values that are especially important to you.

3. Add any values important to you that are not listed here.

_____ _____

_____ _____

Summary:

The environment in which you live and in which you have grown offers opportunities to express your interests. Your early environment also helped to form your values. This is important because both values and interests influence your choice of activities and eventually a career.

Sometimes a person must choose a line of work without considering his or her interests. This may lead to the choice of a hobby or *avocation* to express these interests.

Questions:

1. What useful things did you learn from this activity?

2. Discuss some of the ways your community environment affects you.

3. What are some interests and values influenced by your family?

4. What interests and values do you have because of your friends?

5. What interests do you have now that could be related to a career?

6. Which of your interests might be more important to you as hobbies?

Activity 4

Hereditary Influences

On your ID card, you filled in characteristics such as eye and hair color that were inherited from your ancestors. Inherited characteristics can be very important in helping you decide on a career. Very tall individuals who have inherited their potential for height may become professional athletes or fashion models because of this basic characteristic.

There are other characteristics you may have inherited, such as abilities or aptitudes for doing certain things. Sometimes "natural" abilities or aptitudes also influence us in our selection of a career.

If a person learns quickly and with little difficulty, it might be because that person has an aptitude for the task. For instance, you may have known someone who learned to play the piano with very little instruction. That accomplishment would show that the person had an aptitude for music, which could possibly lead to a musical career.

Sometimes aptitudes are enjoyed or developed in hobbies or activities outside a person's career. For example, an individual might play in a musical group either as a hobby or a profession.

Recognizing these inherited abilities is another one of the important ways to find out who we are.

Vocabulary Words

inherit — descriptors

aptitude — potential

TASK 1 Self Assessment

Purpose:

To identify your skills and abilities at the present time.

Steps:

1. Using the list of descriptors below, circle the words or phrases that best describe you.

Descriptors of Abilities or Aptitudes

Convincing others
Daydreaming
Manipulating tools
Helping others
Doing routine tasks
Painting
Thinking
Giving reports or speeches
Using machines
Listening
Producing music
Dealing with words
Dealing with numbers

(continued on page 16)

(continued from page 15)

Solving problems

Participating in discussions

Serving as a club officer

Playing sports

Building or making things from patterns

Reading

Understanding how things work

Dancing

Producing poems

Talking with others

Working alone

Working with others

Making things without directions

Selling

Drawing

Repairing things

Giving reports

Making friends

_____

_____

2. Add other words or phrases that describe your aptitudes or abilities.

3. Carefully read about the six personality types below (from the Myers-Briggs Inventory)

Type 1

- Tends to be very aware of other people and their feelings.
- Enjoys pleasing people, even in unimportant matters.
- Likes harmony. Disturbed by office feuds.
- Often lets decisions be influenced by personal likes and dislikes of his own and others.
- Needs occasional praise.
- Dislikes telling people unpleasant things.
- Relates well to most people.
- Tends to be sympathetic.

Type 2

- Is somewhat unemotional and uninterested in people's feeling.
- May hurt people's feelings without knowing it.
- Likes to think things out and put them in logical order. Can get along without harmony.
- Tends to make decisions in a detached manner, sometimes ignoring people's wishes.
- Needs to be treated fairly.
- Is able to reprimand people or fire them when necessary.
- Tends to relate well only to other thinking types.
- May seem hard-hearted.

Type 3

- Dislikes new problems unless there are standard ways of solving them.
- Likes an established routine.
- Enjoys using skills already learned, more than learning new ones.
- Works steadily, with a realistic idea of how long the task will take.
- Usually works until the task is completed.
- Is impatient when the details are complicated.
- Is patient with routine details.
- Rarely trusts inspirations and doesn't usually get inspired.
- Tends to do good accurate work.

Type 4

- Works best when able to plan ahead and then follow the plan.
- Likes to get things settled and wrapped up.
- May decide things too quickly.
- May dislike to interrupt the project he or she is working on for a more urgent one.
- May not notice new things which need to be done.
- Wants only the essentials needed to complete the task.
- Tends to be satisfied once they reach a judgement on a thing, situation or person.

Type 5

- Tends to be good at adapting to changing situations.
- Doesn't mind leaving things open for changes.
- May have trouble making decisions.
- May start too many projects and have difficulty in finishing them.
- May postpone unpleasant jobs.
- Wants to know all about a new job.
- Tends to be curious and to welcome new light on a thing, situation or person.

Type 6

- Likes solving new problems.
- Dislikes doing the same thing over and over again.
- Enjoys learning a new skill more than using it.
- Works in bursts of ethusiastic energy, with slack periods in-between.
- Frequently jumps to conclusions.
- Is patient with complicated situations.
- Follows an inspiration, good or bad.
- Is impatient with routine details.
- Often tends to make errors of fact.
- Dislikes taking time for precision.

5. After you have completed steps 3 and 4, decide which personality type you are and check it. Your teacher will supply the name of each type.

Type 1 ____	Type 4 ____
Type 2 ____	Type 5 ____
Type 3 ____	Type 6 ____

Summary:

Hereditary influences are very basic to a person's being, and this often makes it difficult to separate them from environmental influences. You can inherit such things as physical characteristics and natural abilities or aptitudes.

However, even these basic things can be changed by environment. People are healthier and taller because of exercise and good nutrition. The opportunity for lessons will cultivate musical aptitude.

Sometimes a person's aptitudes will greatly influence his or her choice of a career. There are other times when they must be enjoyed as hobbies.

4 - Hereditary Influences

Questions:

1. What aptitudes do you believe you inherited that may serve as the basis for a career?

2. Give examples of people you know who have inherited abilities or talents and are using them in their jobs.

ACTIVITY 5

DEBATE

There are different ways to measure success. There are different ways to define happiness. There are different points of view for almost every idea.

An interesting way to bring out the pros and cons of an issue is to have a debate. Debating a question or an issue forces you to look at all sides. This can help you see if the values you hold are really important to you.

Issues to be debated are usually stated in the affirmative, which means they are said in a positive way. For example, an issue might be stated this way: "A man's place is in the home" instead of saying "A man's place is not in the home." However, the negative side of any debate question must also be explored and defended.

There are several things about career success that could be debated. In this activity, you will look at two topics concerned with personal characteristics. Your teacher will choose an issue for your class to debate.

1. *Heredity is most important for career success.*
2. *Environment is more influential than heredity.*

Vocabulary Words

issue	debate
affirmative	negative

TASK 1 Debate

Purpose:

To gain a better understanding of how to hold a debate.

Steps:

1. Divide the class into groups of eight.
2. Your teacher will give you an assignment the day before the debate.
3. Each team will defend a different position. For example, one team will argue that heredity is more important than environment. Another will take the opposite side. If other debate questions are chosen, one team will try to prove one point of view, and the other team, the opposing point of view.
4. One individual will serve as the moderator as well as the recorder. Other students will serve as the judging audience.
5. More than one group will be holding their debates at the same time.
6. Your teacher will give directions for carrying out the debate.

5 - Debate

Summary:

The process of debating an issue makes you think about all the possible points of view. The fact that you are a unique individual becomes clear when you look at important issues like the influence of heredity and the influence of environment. Your personal values become apparent as you choose sides.

Choosing the best way to communicate your ideas is another useful thing to learn from a debate. When you are interested in making a point, you have to organize your thoughts in the way that is most easily understood.

Questions:

1. What useful facts did you learn from the debate?

2. Did you enjoy the role that you played in the debate? What was it?

3. What kinds of occupations require a person to be a "debator?"

4. What personality characteristics would such a person need to be successful?

5. An individual's personality (all that he or she is) is a result of both heredity and environment. What have Activities 1-5 helped you to discover about how your personality may have developed? Can you think of some reasons why you have the particular abilities and interests that you do?

How We Communicate to Others

Communication between persons may occur either by means of language or by use of non-verbal movements (actions which are not concerned with words.) The most used methods are probably the spoken language or the written word. However, several important *non-verbal means of communication* should be considered as well. They include facial expressions, posture, touch and body movement. Humor, sincerity, organization, creativity, dedication, and punctuality are less obvious examples of non-verbal communication.

The following group of activities will look at some of these types of communication. By participating in these activities, you will have a better understanding of how you tell others about yourself and how they see you.

ACTIVITY 6

LISTENING AND TALKING

The ability to be a good listener is important in getting along with other people. Good listeners have worked to develop that skill of "hanging on to every word." This activity will require you to be an attentive listener.

Verbal communication is another important part of this activity. Clear, cheerful, confident and grammatically-correct speech is a good characteristic to perfect, because it plays a major role in our communication with others.

Vocabulary Words

attentive communication verbal non-verbal

TASK 1 Listening

Purpose:

To become a good listener.

Steps:

1. Listen carefully to the directions that your teacher reads to you.
2. Each step will be read no more than two times.
3. Observe the teacher's facial expressions and gestures.
4. Listen for emphasis and variations in the tone of your teacher's speech.

Questions:

1. What qualities must you develop in order to be a good listener?
2. List three situations in which it would be important to be a good listener.
3. What are some jobs that would require being an attentive person?

TASK 2 Talking

Purpose:

To become aware of the qualities of your own voice and how these qualities impress others.

Note: This task is to be completed individually, when you have a few minutes after another activity.

Steps:

1. Record the passage given (or tell an episode that you have enjoyed).

"Today's youth is faced with a difficult problem in preparing for the career world. New jobs are constantly being developed and some familiar ones are becoming unnecessary. Therefore, it is a good approach for you to learn about yourself and how you can fit into the general areas of work. The work modes and career clusters are ways to help you see this idea more clearly."

2. Use the check chart to rate yourself on pronunciation, intonation and speed.

	Good	NSI*	NMI*
Pronunciation			
Intonation			
Speed			

*Needs some improvement

*Needs much improvement

Pronunciation: Pay attention to each syllable; say the word clearly including the "ing" ending--telling instead of tell'n. Use the preferred way of pronouncing the words. The dictionary sometimes lists more than one way, but the preferred pronunciation is always first.
Intonation: Vary the tone in your conversation; do not say everything at the same level of pitch (high or low) or use the same volume (loud or soft).
Speed: Speak at a moderate speed. Talking too rapidly makes it difficult for people to understand you and may show that you are nervous. Talking too slowly tends to bore people or make them lose interest in what you are saying.

3. Add gestures and facial expressions to your reading. Does it help?

4. Practice often with passages that you read or practice simply by telling a story.

5. Rate yourself each time to note your improvement.

6. Remember to pay attention to how you sound when you are talking.

7. Pick out weaknesses in your vocal communication and practice doing a better job.

Summary:

Speaking is only one way of communicating with others; listening is also important. A good listener can ask intelligent questions and carry on a good conversation, too. She or he can gather additional information by paying attention to gestures and facial expressions. Often we make mistakes because we did not listen well or were in a hurry to speak ourselves.

Listening is easier for others when we speak clearly and at a reasonable speed. Varying voice intonation and using facial expression makes listening more interesting for others. We are often judged by the way we speak.

Questions:

1. Which of the six work modes place a high value on good verbal communication? Give examples of jobs in these work modes.

2. What are three kinds of work where both speaking and listening are highly important?

Activity 7

Body Language

Words are used to express ideas and thoughts in such a way that they can be communicated to others. Another kind of communication is body language. Gestures, facial expressions, touch, eye contact, and body movements are all used to communicate and further emphasize our words. Body language can even be used alone.

Many times we read a person's body language apart from what he or she is saying, especially when we read two different messages. For example, your parents might say that you cannot stay up another half hour to finish a TV program. You reply, "Okay. . .," but your face says, "If I had a choice, I would not go to bed."

We can see another influence of *environment* on ourselves by looking at body language. It is a variety of things learned from our surroundings as we grew up. Like language, some body movement is not likely to be recognized outside of your own community or family.

TASK 1 Pantomime

Purpose:

To understand the role of non-verbal communication.

Steps:

1. Do not use your voice in this exercise.

2. Think of the body movement needed to communicate each attitude or idea suggested.

Ideas to Communicate

Showing leadership
Selling a book
Drawing a picture
Filing papers
Fixing a motor
Doing a math problem
Taking care of a first grader
Finding out that you got a job
Finding out that you didn't get a job
Being angry
Being happy
Being tired
Being helpful
Being nervous
Being shy

3. Remember to consider facial expressions, posture and touch, as well as the movement of limbs, sitting, standing, and so on.

4. Read over the list and volunteer for the role you would like to pantomime.

5. While you are reading over the list, write down a few ideas describing how you would communicate each idea, attitude or situation.

6. The class (group) will act as the audience to decide what is being acted out.

7. As each act is guessed, record it on the chalkboard.

8. When all who wish to act have acted, discuss other ways that each idea could have been communicated.

9. When your group has finished all of the steps above, make a list of jobs. Act them out and see if the class can guess which occupation is being pantomimed.

10. Try to group the jobs according to their similarities.

11. Discuss the differences, as you understand them.

Summary:

Body language communicates some things that speech alone cannot. A handshake, for example, is understood in many countries when a person's attempt at the foreign language cannot be understood. There are some physical expressions, such as those around the eyes, that are less easily understood than the handshake. Other kinds of body language are more local and are not likely to be recognized outside your own community or family.

Good communication involves both verbal skills (speaking clearly and with expression) and some body language (physical expressions that illustrate or emphasize what we are trying to communicate.) This is important to consider because both verbal skills and body language are very necessary to some careers.

Questions:

1. What are some body expressions which quickly communicate with others?

2. What body language can give a clue to a person's type of personality?

3. How much influence can body language have?

4. Discuss examples of how body language could be misinterpreted.

5. What kinds of occupations use body language?

ACTIVITY 8

MORE WAYS TO COMMUNICATE

It is important to know how you appear to other people. The way that you communicate with them gives certain information about what you are like. You have seen that body language and speech both carry this information. In turn, you form ideas about other people because of what they communicate in their speech and action.

We have seen how speech and body language help us communicate, but there are other less direct ways. Choice of colors, spare time activities, and favorite music also say something about our personality characteristics. We constantly express our "self" in many ways, from plainly stated facts to less obvious forms of behavior.

Vocabulary Words

preference sophisticated temperament

TASK 1 Color and Personality

Purpose:

To discover how your color choices communicate your personality to others.

Steps:

1. Pick five crayons which represent five important colors in your life. The first one that you pick is most important. Write down the order in which you choose the colors.

2. Draw a picture. The background represents your overall outlook on life, so use the color that really represents the way you feel about life in general. It will probably be the one you chose first.

3. Draw a symbol for each of the four major interests of your life, using a color that you feel is proper for each.

4. Now read the following information.

On the color wheel there are three *primary* colors--red, yellow, and blue. In between each of them are the *secondary* colors--orange, purple, and green. Between them are the *intermediate* colors--the variety of shades between red, yellow, and blue.

Yellows, oranges, and reds are usually thought of as *warm* colors while the blues and greens are considered *cool* colors.

The choice of intensity (brightness or dullness) of color also says something about a person's personality.

Black communicates the idea of nothingness, negativity or gloominess. Sometimes it is considered sophisticated.

White and Pastels are the beginning; the "yes" as opposed to the "no" of black; light, airy, innocent.

Blue represents calmness, fulfillment,

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trust, devotion and lasting values. It is often associated with calm waters and quiet temperament. It represents balance and harmony.

Green reflects the importance of power and reputation. It expresses firmness, pride, and opposition to change.

Red reveals the desire for activity, competition and success. It represents struggle and conquest.

Yellow represents relaxation and happiness. It communicates the idea of change toward new and developing activities or ideas.

Orange is a bright color which symbolizes warmth, happiness and an outgoing manner. It is very close to red and to yellow in its expression.

Violet represents that magical state of mind where needs are met and wishes are granted. It can show a desire to attract and fascinate others.

Brown represents security, physical contentment, and the importance of being in the company of family and friends. It shows an emphasis on comfortable physical surroundings.

For More Information:
Scott, Ian and Luscher, Max. The Luscher Color Test, Random House, New York, 1969.

Questions:

1. Can you see any relationship between the words used to describe you and the colors you have chosen? How do the colors and the words fit together?

2. Was this exercise helpful in letting you see yourself more clearly? How?

3. How do people express preference for colors?

TASK 2 Describing Personality Characteristics

Purpose:

To match your classmates with descriptions of each work environment, and to match descriptions with work modes.

Steps:

1. You will write the name of a classmate beside each of the descriptors. Try to suggest the person described best in each case. Also try to include each individual in the class.

2. Decide which work mode is best described by each phrase and write the abbreviation in the chart.

	Step 1	*Step 2*
Descriptors	Classmate	Mode
convincing others	_____	_____
daydreaming	_____	_____
using tools	_____	_____
helping others	_____	_____
doing routine tasks	_____	_____
painting	_____	_____
thinking	_____	_____
giving reports or speeches	_____	_____
using machines	_____	_____
listening	_____	_____

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Descriptors	*Step 1* Classmate	*Step 2* Mode
writing music		
dealing with words		
dealing with numbers		
solving probelms		
participating in discussion		
working with others		
making things		
selling		
drawing		
repairing things		
writing		

Questions:

1. Did your classmates suggest your name for descriptors that you feel fit you?

2. Do you feel that classmates placed each other in the most suitable work modes?

3. How does the way others feel about us affect what we do or try to do?

4. Do you think you do a better job if another person expects you to reach certain standards?

TASK 3 Picture Analysis

Purpose:

To examine a picture and tell what it is communicating.

Steps:

1. Look at the picture on the next page and try to decide what is happening.

2. What kind of personality does the person(s) have?

3. Give reasons for your ideas about the picture.

4. Write a personality caption for the picture. A caption is the short description usually seen under pictures in magazines and newspapers.

Summary:

We communicate whether we mean to or not. The way we speak, the way we walk or gesture, our facial expressions, even our choice of colors says something about our personalities.

Sometimes we can misinterpret the "message". Our first impression is not always the right one. It takes time to know one another beneath our surface actions and words.

We should be aware of what our actions "say" to others. We communicate by *how* we say something and by the way we use body language, as well as by *what* we say. Outward expressions of our "self" show others our style.

ACTIVITY 9

INTRODUCTORY LESSON - MODES

Now you have completed the activities that examined your "self," and it should be apparent that you are a unique individual. You and your classmates differ in many ways. You express that difference both verbally and nonverbally. It is the combination of your personality characteristics that makes you unlike anyone--a very unique individual.

Some of the personality characteristics that you identified in the first part of Careers and You develop in a certain way to become your own "style." You have heard others say, "Wow! She/he has style." All of us have a certain style. Whether you're playing or working, others see your *style of doing things*.

Recognizing your own style is an important part of thinking about and comparing careers. Imagine how useful it would be if your natural inclinations helped you more easily perform the tasks related to your job.

What is a Job?

Have you ever thought about what a job actually is? Let's take a close look. In the first place, a job might be defined as a series of work activities that an individual performs for the benefit of someone who will pay him or her.

All jobs or occupations can be described in two ways. *First*, every occupation requires a certain amount of knowledge or information in order to perform the tasks required. To one degree or another, three types of information or knowledge are involved.

Data - Numbers, words and/or symbols. People - Human beings, persons. Things - Materials, items and/or thoughts.

For example, a social studies teacher needs to know about history and geography, which is data in the form of words, numbers, or symbols. A business teacher is familiar with filing and accounting procedures, a different kind of data. While they are both teachers and their jobs are similar in most respects, they differ in the special knowledge or data each has of the subject he teaches.

The *second* way an occupation can be described is by the word "style," the way an individual uses the knowledge he needs to perform a task. While the data or information that a social studies teacher uses is different from the data that the business teacher uses, they have the same style of work. They both *teach people*.

Styles of Work - Work Modes

There are six styles of work called *work modes*, which describe the ways that people work. You may like one or two styles more than the others. Many occupations and hobbies involve more than one work mode, but usually one is stronger or more obvious than the others. As you read in Activity 1, there are six of these work modes: *conventional, creative, enterprising, investigative, mechanical, and social*. You'll find a description of each in the following paragraphs. As you read, begin to think about which work mode best describes the way you like to do things.

Vocabulary Words

analyze	inclinations	numerical
apparent	abstract	humanistic
concrete	dominating	aggressive

TASK 1 Work Mode Descriptions

Purpose:

To be able to describe the six work modes.

Steps:

1. To better understand the work modes, think of each mode in two ways:
   a) the style of work that suits your personality and,
   b) the content of the work often found in those modes. "Content" means knowledge of working with *people* (such as helping or managing people), *data* (such as working with words, numbers, or symbols), or *things* (such as materials, items, and/or thoughts).

Mechanical: Mechanical types usually have good physical coordination and skill, and would rather avoid verbal tasks. They enjoy working with concrete things more than with abstract ones, so they often work with tools, equipment, and machinery. They are able to work well alone. Examples of mechanical occupations include carpenter, machinist, dentist, surgeon, farmer, and mechanic.

Mechanical occupations basically work with things (materials, items, and/or thoughts).

data
THINGS
people

Conventional: People in the conventional work mode like routine. They like to do things over and over the same way. The conventional type person feels more comfortable with rules and regulations, avoiding unclear situations. They also avoid tasks involving physical skills, preferring to work with verbal, numerical tasks. To be happy on the job, they do not have to be part of a team effort. Examples of conventional occupations include bookkeeper, truck driver, accountant, assembly line worker.

Conventional occupations basically work with data (numbers, words, and/or symbols)

people
DATA
things

Enterprising: People in the enterprising work mode are persuasive, adventurous, and dominating. They have verbal skills for selling and leading. They are aggressive and concerned with power, status and leadership. Examples of occupations in the enterprising work mode are salesperson, lawyer, store manager, politician, and company executive.

Enterprising occupations basically work with people.

things
PEOPLE
data

Social: People in the social work mode are sociable, responsible and humanistic. They enjoy helping, talking, and being with other people. They avoid problems which are not easily understood in a concrete way. They prefer to solve problems through feelings and depend upon their verbal abilities, rather than having a set of guidelines to direct their activities. They also favor non-physical activity. Examples of social occupations are social worker, nurse, psychiatrist, minister and school counselor.

Social occupations basically work with people.

things
PEOPLE
data

Investigative: People in the investigative work mode typically like to read, analyze, plan, write and research. They would rather work alone than with others. They prefer to think through, rather than act out problems. Examples of investigative occupations are chemists, detectives, quality control people, researchers, building inspectors, and college professors.

Investigative occupations basically work with data (numbers, words, and/or symbols.)

people
DATA
things

Creative: People in the creative work mode are imaginative, original, inventive, and artistic. They like to express their own ideas about a job or task, not following patterns, rules or routines. Often, they would rather work alone. Creative work involves self-expression with all kinds of materials. Artists, automobile designers, actors/actresses, architects, and cartoonists function in the creative work mode.

Creative occupations basically work with things (materials, items, and/or thoughts).

data
THINGS
people

After reading these descriptions and remembering the other activities, you already may have an idea of which modes you like best. For example, the mechanical work mode probably is important to you if you like working with your hands, working with things, or working with tools and equipment. This will influence your choice of clubs, hobbies, sports and school courses which involve particular work modes. Eventually you will want to choose a career that also will satisfy your personality.

2. Listed below are words which describe each work mode. Decide which of the six modes is being described and write an abbreviation on the blank.

Example:

Following a routine co
(for conventional mode)
Leading others e
(for enterprising mode)
Being original cr
(for creative mode)

If you find that the description fits more than one mode, name as many as fits.

working with others ___
following a pattern ___
good coordination ___
working with things ___
like to talk ___
persuading others ___
being sociable ___

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being humanistic ___
reading ___
analyzing things ___
being imaginative ___
working alone ___
doing things over and over ___
structured tasks ___
working with tools ___
dominating others ___
selling ___
working with people ___
feeling for others ___
planning ahead ___
writing ___
being original ___
being inventive ___
working alone ___
following routine ___
working with machines ___
working with equipment ___
leading others ___
working with people ___
having empathy for others ___
helping others ___
doing research ___
working alone ___
being artistic ___
being creative ___

Compare your answers.

Summary:

We show our uniqueness in many ways, in our actions as well as in our speech. As we express our "style" in work and play, we try to match our special personality characteristics with activities that satisfy our interests and inclinations.

The special information needed to work at a particular occupation may change from time to time. That particular occupation may even change enough to require working in a different mode. Yet, the work mode itself, a description of work environments, changes much slower, if at all. That is why it will be useful to you next year or the year after, to understand how you relate to them.

Students your age should be concerned at first with finding the work mode that interests them most. Later you will want to know more definite information on particular occupations.

Questions:

1. What are the similarities between the social and enterprising work modes? What are the differences?

2. What are the similarities between the mechanical and creative work modes? What are the differences?

3. What are the similarities between the investigative and conventional work modes? What are the differences?

4. Can an occupation have more than one work mode?

Activity 10

Mode Collage

We function in many work modes during the course of even one day. Our style of doing things favors one mode, but sometimes circumstances do not allow us to work in it. When this happens, we often turn to recreational activities.

For example, a person who is creative might be forced by circumstances to take a job which is in the conventional work mode. That person would probably turn to a creative hobby, such as painting or writing.

During this activity, you will be grouping pictures of people at work and play and putting them into one of the six mode categories.

TASK 1 Work Mode Collage

Purpose:

To make a picture collage showing people involved in activities in each of the six modes.

Steps:

1. Decide what size the collage will be. Will it cover a poster board, a portion of a wall, a folding screen?
2. Look through old magazines and newspapers, and cut out action photos.
3. Group the photos by work modes.
4. Arrange the pictures in some fashion on your background, but be sure to group them by work modes.
5. Glue each picture in place.
6. Title each mode.

TASK 2 Take-Home Assignment

Purpose:

To make a picture collage showing how you might function in all work modes during a single day.

Steps:

1. Find a picture illustrating people at work or play in each of the six work modes. Choose pictures that represent activities you yourself might do. If possible, you might want to use pictures from your family photo album which show you acting in each of the six work modes.
2. Arrange the six pictures on a sheet of cardboard or piece of paper and identify the mode for each picture.
3. In class discussion, explain how you have experienced each of the work modes by using your personal collage.

Summary:

Sometimes it is difficult to identify a major work mode for a person. This happens because in the course of a day, we may shift several times from one work mode to another.

For example, on the way to school, you probably associate with your friends in the *social* work mode. In class, you may work in a *conventional* mode, as you copy simple math problems, or the *investigative* mode as you solve other complex ones. You may be working in both the *mechanical* and *creative* work modes putting up a bulletin board. Trying to talk your mother into a snack before dinner could be very *enterprising* work.

In the career world, there are some occupations that allow a person to experience every work mode daily. Your teacher is probably a good example. However, most jobs require a person to function primarily in one or two work styles.

Questions:

1. Discuss how the pictures represent each mode.

2. Are there pictures that represent more than one mode? If so, how?

3. Identify a job and a hobby for the same picture.

ACTIVITY 11

MODE PREFERENCES

Throughout your life you will be involved in a combination of work mode activities. Sometimes you will be involved in mechanical activities. Other times you will operate in the creative, social or investigative work modes. All six work styles will be part of your everyday life, though only one or more may be appropriate to your personality.

The work modes you prefer will probably change as you change. For example, students your age often like creative, energetic activities, so you may be using the creative and mechanical work modes now. As you grow older, you will naturally express yourself in more different ways.

Activity 11 will help you focus on the interests and modes which suit you best *at this time*. After experiencing more activities in this course, you might see other modes better suited to your personality characteristics.

TASK 1

Purpose:

To discover which work modes match some of your personality characteristics.

Steps:

1. Listed below are a series of statements. In each pair, circle the number in front of the one which you like best. Once you have made a choice, do not go back and change your answers. Going back will make the activity confusing.

Example:

I like:

X To eat ice cream
(Y) To play sports

I like:

1 To try to influence people.
12 To experiment and explore with ideas and things.

3 To follow the rules.
5 To be helpful to my family and friends.

11 To use my abilities in reading, writing, and/or problem solving.
12 To experiment and explore with ideas and things.

6 To have friends.
11 To use my abilities in reading, writing, and/or problem solving.

7 To have as much freedom as possible to do the things I want to do.
10 To stay with a task until it is completed.

6 To have friends.
8 To do new and different things often.

3 To follow the rules.
9 To do a good job of making things.

8 To do new and different things often.
10 To stay with a task until it is completed.

4 To have things neat, orderly, and organized.
11 To use my abilities in reading, writing, and/or problem solving.

2 To be an elected leader.
3 To follow the rules.

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11 - Mode Preferences

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10 To stay with a task until it is completed.
12 To experiment and explore with ideas and things.

2 To be an elected leader.
12 To experiment and explore with ideas and things.

4 To have things neat, orderly, and organized.
7 To have as much freedom as possible to do the things I want to do.

5 To be helpful to my family and friends.
8 To do new and different things often.

7 To have as much freedom as possible to do the things I want to do.
8 To do new and different things often.

5 To be helpful to my family and friends.
12 To experiment and explore with ideas and things.

3 To follow the rules.
11 To use my abilities in reading, writing, and/or problem solving.

6 To have friends.
12 To experiment and explore with ideas and things.

9 To do a good job of making things.
12 To experiment and explore with ideas and things.

1 To try to influence people.
10 To stay with a task until it is completed.

3 To follow the rules.
8 To do new and different things often.

4 To have things neat, orderly, and organized.
6 To have friends.

5 To be helpful to my family and friends.
10 To stay with a task until it is completed.

6 To have friends.
10 To stay with a task until it is completed.

1 To try to influence people.
5 To be helpful to my family and friends.

3 To follow the rules.
6 To have friends.

5 To be helpful to my family and friends.
7 To have as much freedom as possible to do the things I want to do.

10 To stay with a task until it is completed.
11 To use my abilities in reading, writing, and/or problem solving.

2 To be an elected leader.
4 To have things neat, orderly, and organized.

8 To do new and different things often.
9 To do a good job of making things.

8 To do new and different things often.
12 To experiment and explore with ideas and things.

4 To have things neat, orderly, and organized.
5 To be helpful to my family and friends.

9 To do a good job of making things.
11 To use my abilities in reading, writing, and/or problem solving.

1 To try to influence people.
9 To do a good job of making things.

2 To be an elected leader.
10 To stay with a task until it is completed.

6 To have friends.
7 To have as much freedom as possible to do the things I want to do.

4 To have things neat, orderly, and organized.
6 To have friends.

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2 To be an elected leader.
5 To be helpful to my family and friends.

4 To have things neat, orderly, and organized.
8 To do new and different things often.

2 To be an elected leader.
9 To do a good job of making things.

1 To try to influence people.
8 To do new and different things often.

2 To be an elected leader.
8 To do new and different things often.

2 To be an elected leader.
6 To have friends.

7 To have as much freedom as possible to do the things I want to do.
9 To do a good job of making things.

1 To try to influence people.
11 To use my abilities in reading, writing, and/or problem solving.

3 To follow the rules.
10 To stay with a task until it is completed.

3 To follow the rules.
5 To be helpful to my family and friends.

2 To be an elected leader.
10 To stay with a task until it is completed.

Vocabulary Words

rank tally

---

2. Directions for Scoring

a. Count the times you circled each of the 12 numbers. You can make a tally on the blank line to the left of each number.

b. To get a total, add the numbers for each pair of descriptions. *Example:* Add 1 and 2, then add 3 and 4, and so forth.

c. Now you can rank your choices. The highest total will be number one. If there is a tie, for instance, between #7, #9, and #12 for third place, rank all of them number three.

d. When you have finished, the column on the right will show you which work modes suit you best at this time.

a Tally		*b* Total	Mode	*c* Rank
_____	1			
_____	2	___	Enterprising	____
_____	3			
_____	4	___	Conventional	____
_____	5			
_____	6	___	Social	____
_____	7			
_____	8	___	Creative	____
_____	9			
_____	10	___	Mechanical	____
_____	11			
_____	12	___	Investigative	____

Summary:

As you can see from Activity 11, there might be one, two, or three work modes you prefer over the rest. These modes might suit your personality characteristics best *at this time*. However, it is important to remember that as you grow older and your personality develops, your interests may change.

Therefore, even though your choices may indicate mechanical and creative interests now, these choices might change as you change.

Questions:

1. Which mode did you rank first?

2. Which one second?

3. Does this choice surprise you?

4. What mode did you rank last? Does this surprise you?

4. List your personal characteristics (descriptors) which agree with the work modes you ranked number one and two.

#1_____ #2_____

Personal Descriptors

_____ _____

_____ _____

_____ _____

Activity 12

Simulating the Work Modes

Each of you have had a chance to read about and discuss the six different styles of work or work modes. By now, you might prefer one, two, or even three of the modes more than the rest. Many times a person can get a clearer understanding of something if he or she can actually try it out or "role-play" the situation. During the next few days, you will have an opportunity to simulate each of the six work modes in some interesting ways.

Vocabulary Words

simulate precipitation stationary oral presentation

TASK 1 Mechanical Work Mode

Purpose:

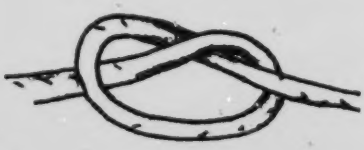
To simulate the mechanical work mode by making a macrame flower pot holder.

Steps:

1. Obtain two pieces of rope or string, 84" in length, and 8 beads from your teacher.

2. Practice making the knot shown below.

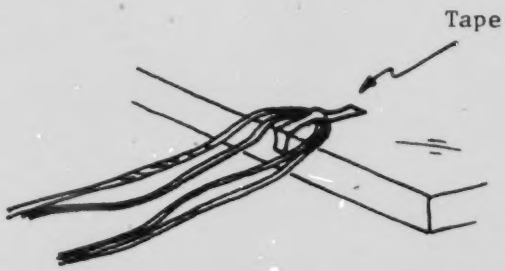
Step 1



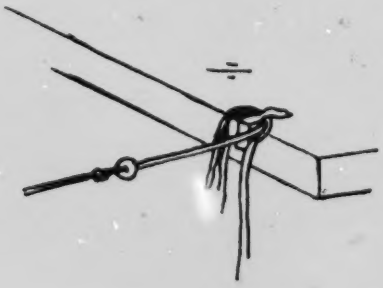
Step 2

3. After learning how to tie the macrame knot, hold both pieces of rope by one end.

4. Now, fold in half, securing the rope as shown in the diagram below.

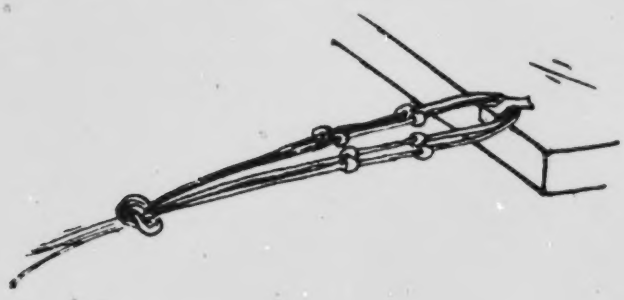


5. Thread one bead up one rope. Measure (from the top) down 12" and tie the macrame knot. (Note: Tie the knot very loosely. Then, by pulling or loosening each end of the knot, move the knot to the desired location.) Repeat for each end of each rope.



6. Measure down 12" and repeat Step 5.

7. Now, measure down 12" from the last knot and tie off the ends of the rope as shown below. After tying the knot, unravel each string.



8. Your macrame flower pot holder should look like this.

Questions:

1. Did you enjoy working with your hands?

2. Did you find it necessary to talk to someone while doing this task?

3. List three things that describe what you did in this task that are also descriptors of the mechanical mode.
   a.

   b.

   c.

4. People in mechanical occupations usually work with (check one):
   ___people ___ data ___ things

TASK 2 A Conventional Work Mode

Purpose:

To simulate the conventional work mode by performing a task for half the class without talking.

Steps:

1. Listed below are a series of social security numbers that your boss has asked you to put in numerical order for the payroll department. Obtain a sheet of paper and list all social security numbers from lowest to highest.

134-68-2290	221-22-2223	246-90-1010
134-72-6481	222-68-1212	128-96-4022
126-84-9637	221-96-2224	013-98-4218
286-24-1922	231-69-8432	014-98-2419
013-00-4228	231-98-4816	016-89-3219
332-12-6429	246-98-8617	013-22-2296
121-62-8996	291-21-2296	014-82-1612
121-86-9221	367-24-3896	013-96-4822
129-26-8136	332-12-2439	332-13-2438
212-21-6178	224-69-1212	126-98-6847
126-83-6229	120-80-3695	182-92-4568
182-93-4558	121-82-6994	135-96-5392
123-45-7890	124-96-8121	134-87-5628
124-63-9820	227-60-7289	135-91-1111
221-36-9812	228-06-9001	212-00-1010
134-99-2800	221-64-4431	014-01-9932
192-60-0001	132-96-2210	018-02-9316
132-08-4213	134-96-8417	332-14-2431
134-71-6482	212-48-9474	332-70-6221
136-18-6219	332-80-8080	367-41-8226
129-14-6996	332-81-9681	013-41-8235
129-15-6999	129-18-9618	015-81-9221
129-28-4892	129-82-4891	015-99-7323

2. You will have half the class period to complete this task. Remember, no talking!

TASK 2 B Conventional Work Mode

Purpose:

To simulate the conventional work mode for half the class period.

Steps:

1. Obtain a box of paper clips and some small bags or envelopes from your teacher.

2. Count out 15 paper clips, put them in a bag and staple the bag shut.

3. Do the same for each bag until you are finished.

Questions:

1. During this task, you did the same job over and over (repeatedly) until you were finished. List three advantages of this type of job.
   a.

   b.

   c.
2. List three disadvantages.
   a.

   b.

   c.
3. Did you find it necessary to work with people during this task?
4. Did you like being instructed as to exactly what you were supposed to do?
5. Why?
6. List 3 descriptors of the conventional work mode.
   a.

   b.

   c.

X 3 Enterprising Work Mode

pose:

To simulate the enterprising work mode by persuading your classmates to take your side on some issue.

Can you remember a time when you wanted to persuade or convince your parents, teachers, or friends of something? In this task, you will have an opportunity to promote the issue of your choice during a 60 second oral presentation.

Steps:

1. In groups of two, think of a topic that you would like to present.

   For example:

   Teenagers should have no curfew.
   Students should have more freedom in school.
   We must stop polluting our environment.
   A woman's place is in the home.

2. After deciding the topic, list your reasons for taking this stand. Your partner will take the opposite side and try to convince the class that his/her point of view is the right one.

3. After listing the points or arguments, arrange your thoughts in the way you want to present them. You may wish to put your outline on 3 X 5 cards or just a piece of paper. Your oral presentation should be limited to 60 seconds.

4. When your turn comes, read your issue to the class and present your arguments in support of it.

REMEMBER:
Your purpose is to convince the class to agree with your arguments.

Questions:

1. Besides being a little nervous at first, did you enjoy trying to persuade your classmates that your argument was better than your partner's?

2. Do enterprising people usually work with: (check one)
   ___ people ___ data ___ things

3. List 3 descriptors of the enterprising work mode.
   a.
   b.
   c.

4. Did you enjoy using verbal communication?

TASK 4A Social Work Mode

Purpose:

To simulate the social work mode through teaching.

Steps:

1. During this activity, your class will be divided into groups of two. Think of a skill, idea, or something you would like to teach your partner that he/she doesn't already know.

   Examples might include:

   -how to tie a knot
   -how to cook a certain dish
   -how to play a musical instrument
   -how to dance
   -how to play baseball
   -how to use a microscope

2. After deciding what you would like your partner to learn, plan how you will teach the information. You might find that an outline will help you organize your thoughts.

   Note: You'll find that you are a more effective teacher if you involve your "student" in the learning process. For example, you might want to teach someone how to tie a square knot.
   a. Explain what you are going to teach.
   b. Step by step, carefully demonstrate to the student how to tie the knot.
   c. Have the student tie a similar knot while you demonstrate once again.
   d. To find out how well the student learned the task, have him/her tie the knot alone.

3. After preparing for the lesson you wish to teach, gather the materials you will need.

4. Decide who will go first. When you have finished, reverse roles.

TASK 4B Social Work Mode
(Choose either 4-B or 4-C)

Purpose:

To simulate the social work mode by helping others.

Steps:

1. Your assignment for this task is to help someone with a problem, some homework, chores, etc.

2. As you leave school today, look for a way in which you can help someone. (You might want to help a brother, sister, parent, grandparent, friend, or even a stranger.)

3. When you see a way in which you can help a person, try to be friendly, courteous, and polite. Try to make that person feel that you want to help him/her--that you are not doing it just as a school assignment.

4. After helping someone, answer the following questions.
   a. Who did you help?
   b. How did you know the person needed help?
   c. What did you do?
   d. Did you enjoy doing it?
   e. Whether you enjoyed what you did or not, how did you feel after helping that individual?
   f. Would you do it again?

5. When your teacher asks you to do so, share your "helping" experience with your classmates.

TASK 4C Social Work Mode
(Choose either 4-B or 4-C)

Purpose:

To remember a time when you simulated the social work mode.

Steps:

1. Refer back to the description of the social work mode in Activity 9 on page and re-read the description.

2. Think back through your previous experiences and remember a time when you shared yourself with someone in a helpful way.

3. After remembering a specific time, answer these questions.
   a. Who did you help?

   b. Why?

   c. What did you do?

   d. Did you enjoy helping this person at the time?

   e. Looking back on that event, how do you now feel about helping that individual?

Questions:

1. Which do you enjoy most, working with people or working alone?

2. Did you feel uncomfortable helping someone?

3. List 3 descriptors of the social work mode.
   a.

   b.

   c.

4. People in social occupations generally work with (check one):
   ___ data ___ people ___ things

TASK 5A Investigative Work Mode

Purpose:

To simulate the investigative work mode by solving a problem.

Steps:

1. A shipment of goods is scheduled to be transported by truck from Bloomfield, Kentucky to Smithville, Tennessee. You have been asked to plan the safest and most direct route for the driver of the truck.

2. Before planning the route, you have asked for and received an up-to-date report on road and weather conditions. You will want to study a copy of the report, found on the next page with a map of the area.

3. Looking at the map, determine the safest and most direct route from Bloomfield to Smithville. Give reasons why you chose this route.

TASK 5B Investigative Work Mode

Purpose:

To simulate the investigative work mode by solving a problem.

Steps:

1. Select a partner.

2. Decide who will go first.

3. Obtain the answer for problem 1 from your teacher.

4. State the problem to your partner.

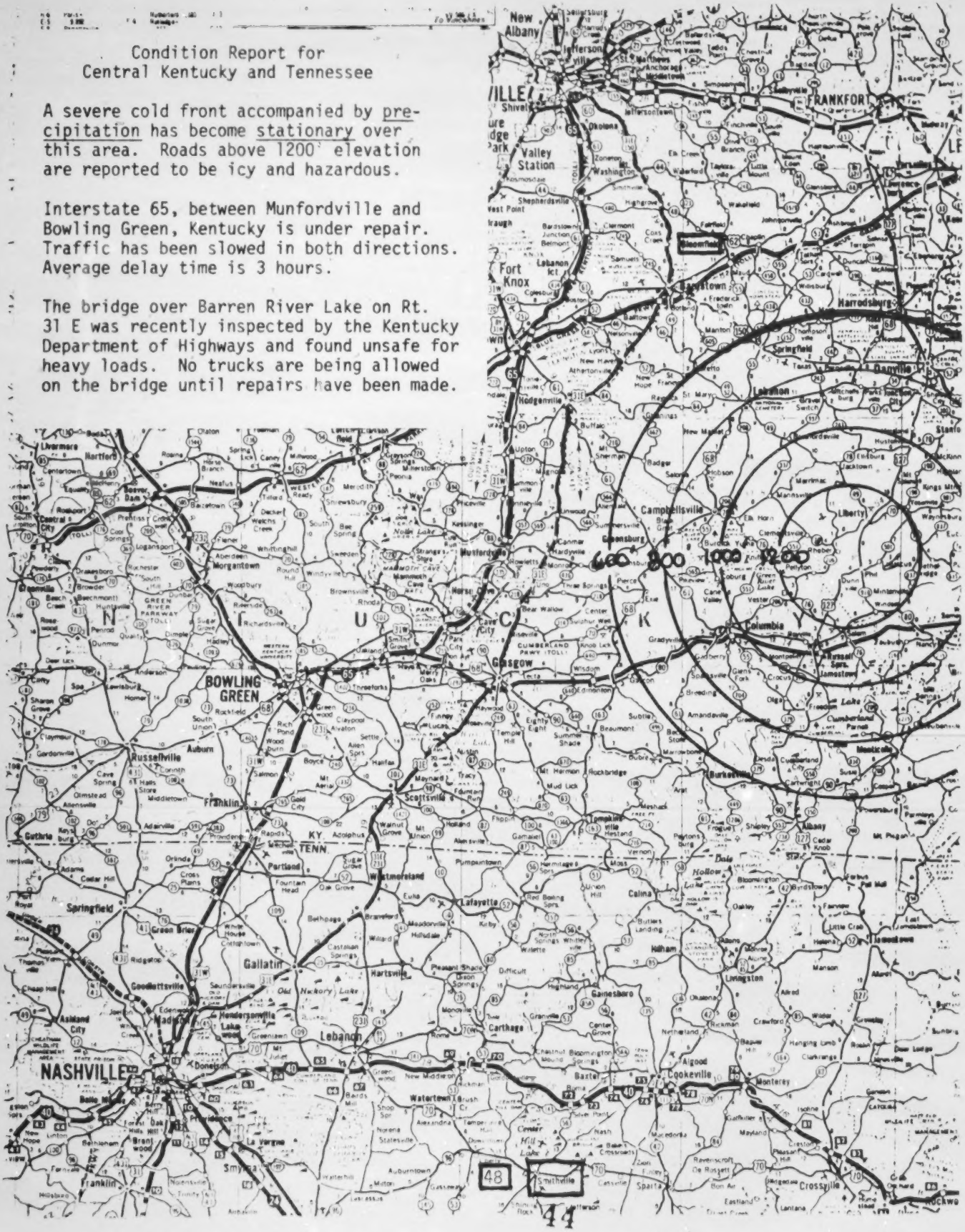
5. Your partner will try to solve the problem by asking questions. The

Condition Report for
Central Kentucky and Tennessee

A severe cold front accompanied by precipitation has become stationary over this area. Roads above 1200' elevation are reported to be icy and hazardous.

Interstate 65, between Munfordville and Bowling Green, Kentucky is under repair. Traffic has been slowed in both directions. Average delay time is 3 hours.

The bridge over Barren River Lake on Rt. 31 E was recently inspected by the Kentucky Department of Highways and found unsafe for heavy loads. No trucks are being allowed on the bridge until repairs have been made.



only answer you can give is yes or no--nothing else.

6. When the solution is found or the time has elapsed, switch roles and go to problem 2.

Problem #1

John was found dead, lying on his face with a pack on his back in the middle of the desert. How did he die?

Problem #2

Bob and Sue were found lying in a puddle of water, in a room next to an open window--dead. How did they die?

Questions:

1. Did you find it interesting trying to solve the problem of the most direct and safe route from Bloomfield to Smithville?

2. Did you enjoy trying to solve the work problems?

3. Which task did you like best? Why?
   TASK 1___ TASK 2___

4. Investigative type people would rather "act out" than "think through" problems. True or False?

5. List three activities or things you have done in the last couple of weeks that are investigative in nature.
   a.

   b.

   c.

TASK 6 Creative Mode

Purpose:

To simulate the creative work mode by performing any creative task you wish to do.

Steps:

1. Think of something you would like to do that is creative in nature.

2. You have this class period to complete your individual task.

Questions:

1. Did you like doing your task without any directions, rules, or regulations?

2. Did you like working alone?

3. What are the advantages of a creative job?

4. What are the disadvantages?

5. People in creative jobs usually work with (check two):
   ___ people ___ data ___ things

Summary:

You are a unique individual! You have learned that the type of personality you have affects the type of occupation you may eventually choose.

There are two dimensions to every occupation: first, the knowledge or information needed to perform the job; and second, the style in which such information is used or the way a person works. This way of working, called a work mode, reflects you and your special personality characteristics.

In the activities to follow, you will be simulating different styles of work once again, but this time you will be examining the 15 different catagories of work--the 15 USOE Occupational Clusters.

Now that you have an idea what work styles or work modes are, you will have an opportunity to try them out! These try out experiences cannot be real many times, because you cannot enter a hospital and *become* a doctor or climb into the cockpit of a jet and *become* the pilot! However, you can simulate each of the work modes in school, because the work modes are all around you. You use them every day.

Planning a new community takes all kind of people and every work mode. In the next several activities, you will choose people to run your own town. You will also face the real problems that come up everyday in the world of work.

This world of work can be divided into *occupational clusters*, which is one way of grouping similar occupations. There are 15 clusters and you will have an opportunity to investigate each one:

1. Agribusiness and Natural Resources
2. Business and Office
3. Communications and Media
4. Construction
5. Consumer and Homemaking Education
6. Environment
7. Fine Arts and Humanities
8. Health
9. Hospitality and Recreation
10. Manufacturing
11. Marine Science
12. Marketing and Distribution
13. Personal Services
14. Public Service
15. Transportation

While learning more about these groups of occupations, you will notice that everywhere you look, you find the six work modes.

Activity 13

Goods and Services

While the world of work can be divided into fifteen occupational clusters, all occupations also can be grouped either as "goods" or as "services." *Goods occupations* are those directly involved in production *Services occupations* are those which deal with the distribution and maintenance of such goods, as well as any other services performed for people.

For example, those involved in making a barber's scissors are employed in a goods production industry. The barber who uses the scissors is part of the services industry.

In Activity 13, we will categorize occupations into these two groups and note the work modes represented by each.

Vocabulary Words

occupational cluster categorize

TASK 1 Defining

Purpose:

To define what is meant by the term "goods" and the term "services."

Steps:

1. Offer your suggestions when your teacher asks for examples of "goods."
2. Your teacher will list these on the board.
3. When no more suggestions are offered, look at the list and decide upon your own definition of "goods."
4. Share your definition with the class when your teacher calls for it.
5. Through discussion, decide on a class definition.
6. Repeat steps 1-5 in order to arrive at a definition for "services."

Questions:

1. Can you name an occupation representing each work mode for both goods and services?

	Occupations	
	Goods	Services
Conventional	_____	_____
Social	_____	_____
Mechanical	_____	_____
Enterprising	_____	_____
Investigative	_____	_____
Creative	_____	_____

2. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 2 Differences

Purpose:

To gain an understanding of the differences between necessary goods and services and luxury goods and services.

Steps:

1. Read the definitions that follow. Think about what is meant by the phrases "luxury goods and services" and "necessary goods and services."

necessary goods and services: goods and services which are needed, required or basic to life and health.

luxury goods and services: goods and services which provide comfort and satisfaction, but are not necessary for life and health.

2. In the chart that follows, decide whether the goods and services listed are luxuries (L) or necessities (N). Make your decisions individually, but be prepared to explain your reasons in a class discussion.

a. Which goods and services are luxuries in your present circumstances?

b. Which goods and services would be luxuries if you were a pioneer?

c. Which goods and services would be luxuries if your family income was cut in half?

Goods	a.	b.	c.
food			
tools			
horse			
sewing machine			
gym suit			
10-speed bike			
lunch money			
private telephone			
shelter			
clothing			

Services	a.	b.	c.
newspaper delivery			
medical care			
hair cut			
dental care			
traffic control			
religious services			
lawn care			
pet care			
car polish			
entertainment			

What you consider luxuries or necessities is influenced by your value system. As you grow and change, your values will also do some changing. You have revealed some of the things that are important to you right now by grouping the lists above.

Questions:

1. *In what ways* would the luxuries and necessities be different for a welder, an orchardist, and a newspaper reporter?

2. *Why* are a farmer's necessities different from a city dweller's?

3. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 3 Examples

Purpose:

To isolate occupations representing goods and services.

Steps:

1. The class will be divided into groups of five, with the following responsibilities being assigned:
   a. Judge who will also be time-keeper and scorekeeper.
   b. Four team members - two persons on each team.

2. Each group can obtain dice and masking tape from your teacher.

3. Place a small piece of tape on each side of the dice so that you can write on it.

4. There are six sides to a die, so you can initial each side with a letter to represent each of the six work modes: S(social), Co(conventional), I(investigative), M(mechanical), E(enterprising), Cr(creative).

Now you have MODICE!

MODICE Rules:

1. Make sure that each group member has a chance to play by rotating the responsibilities of the judge.

2. There are three rounds to each game of MODICE.

3. *Round One* – To begin the game, the first team will role the dice. The letters showing represent the modes you will use in this round of the game. For the *black* die, you must name an *occupation* and for the *white* die, you must name an *avocation* (hobby).

Example:

Black die shows "M" and white die shows "S": Team 1 must name an occupation in the mechanical mode and a hobby in the social mode. One team member might say "airplane mechanic" and his partner might say "boy scout leader."

Each team will have a turn in Round One. Each team member should be individually responsible for either an occupation or avocation.

4. *Round Two* - Before the first team rolls the dice in this round, the judge will make the game more interesting by naming a *cluster*. Instead of being able to name any occupation or any hobby, the teams must now name just those that are related to one of the 15 clusters.

Example:

Black die shows "Co", white die shows "Cr" and the judge says "Manufacturing". The team who rolled this pattern must name an occupation in the conventional mode related to manufacturing and a hobby in the creative mode related to manufacturing. One team member might say "accountant" and his or her partner might say "sewing."

Each team will have as many turns as everyone agrees to have. Each team member should be individually responsible for his or her answer, just as in Round One.

5. *Round Three* – Now the judge will make the game really interesting! She or he will name a cluster for each roll of the dice, just as in Round Two. The team will answer with an occupation and a hobby related to the mode shown on the dice and the cluster named by the judge,

just as in Round Two. Then the judge will ask if the occupation or hobby named has to do with goods or with services.

Example:

Black die shows "E", white die shows "I", and the judge says "Agribusiness and Natural Resources." The team with this riddle to solve must answer with an occupation in the enterprising mode related to "Agribusiness and Natural Resources" and a hobby in the investigative mode related to "Agribusiness and Natural Resources." One member might say "grain sales representative" and his or her partner might say "geologist." The judge will ask if the occupation and the hobby are related to goods or services. The team in this example could reply that a grain sales representative deals with services and a geologist also deals with services.

Each team can have as many turns as everyone agrees to have. Both team members can discuss the problem in Round Three and arrive at a common answer for the relationship of the occupation and avocation to goods or services.

Rules for Scoring MODICE:

1. Each team has one minute to respond after the dice are thrown in Round One, two minutes in Round Two, and three minutes in Round Three.

2. Each correct answer in Round One will be awarded two points, four points in Round Two, and six points in Round Three. It is possible to get half credit.

3. In the event your team is unable to arrive at an answer in the time given, the opposing team will be awarded one half the number of points allowed for a correct answer. They receive a smaller amount of credit because they have more time to think of the answer.

4. A team may collect *extra credit* (three points) by naming a course (junior high school/high school) which is related to the occupation given in each round.

   Example:

   tailor – home economics
   airplane mechanic – industrial arts

Questions:

1. Which is based upon self--occupational clusters, goods and services, or work modes?

2. Which is most important to you? Why?

3. How is the value of goods and services measured?

4. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Summary:

All of the occupations grouped into the 15 USOE occupational clusters can be labeled either as goods occupations or services occupations. They are divided according to their purpose - a) the production of goods or b) services performed for people, such as making goods available or keeping them in good repair.

The work force in our country today is concerned more with services occupations. This is because we have improved our methods of producing goods and we no longer need as many people in production. However, we have more and different kinds of goods, so we have increased our need for people to serve in other ways. This is one more important thing to consider in planning for a career.

Activity 14

Modes in Public Services

Work styles or "modes" can be found all around us. Regardless of the organization, whether it be a company, a military service such as the Navy or a government, people can be found working in the six work modes. Your personality may be such that you enjoy two or three work modes.

By the same token, a given occupation may involve more than one work mode. For example, a dentist functions in both the social work mode--helping people--and in the mechanical--manipulating tools.

In the activities which follow you will have an opportunity to simulate each work mode as found in the adult world of work. While each activity may include various modes, each will be related to one or more of the 15 occupational clusters as well.

Activity 14 will discuss the Public Service Cluster and simulate various work modes related to community government.

(Picture)

Public Services

- Administration and Regulatory Services
- Urban Development
- Education
- Protective Services
- Post Office
- Public Utilities
- Public Health
- Labor Affairs
- Public Transportation
- Social Services, Rehabilitation, Correction
- Parks and Recreation

People who are employed in public service are often inspired by the desire to make their communities a better place to live. They must deal with all kinds of people, making use of good verbal skills as well as an even disposition. They are often called upon to work odd hours, since the needs of the community continue around the clock. The devoted public worker does not choose his or her occupation for personal or material gain but for the opportunity to serve others.

Public service occupations include —

1. *Administration and Regulatory Services:* directing and coordinating various activities in local, state and federal governments,
2. *Urban Development:* planning urban growth,
3. *Education:* preparing youth and adults for life in our society,
4. *Protective Services:* investigating and enforcing regulations affecting the public interest and welfare,
5. *Postal Service:* processing, distributing and dispatching mail,

6. *Public Utilities:* production, marketing and/or distribution of water, electricity, gas and steam and the processing of sewage,
7. *Public Health:* provision of statistical date, sanitation, disease control and promotion of health,
8. *Labor Affairs:* protection of worker interests in industry,
9. *Public Transportation:* design, construction and maintenance of public highways, bridges, tunnels, and so forth,
10. *Social Services:* provision of services for citizens who cannot take care of their daily needs, and
11. *Parks and Recreation:* development, care and upkeep of recreational areas.

Vocabulary Words

manipulating	misdemeanors
zoning	municipal
disposition	civil suit
ordinances	criminal suit

TASK 1 Town Government Organization

Purpose:

To identify the work modes in different government jobs.

Community residents elect their local officials. These officials govern the town according to rules laid down by a town charter. The charter gives the town power to perform services for its residents and enact ordinances, as long as there is no conflict with general law (state and federal). The exercise of powers by town government is usually more limited than in a city government.

A town can be governed by a *town council*, although there are other ways. The council will budget the town's money and control all its financial affairs. It also has the power to tax and pass ordinances. In many instances the council may appoint some of the town officials and other employees. Regular town elections are required by law to be held on a scheduled basis. The number of members usually varies, depending on the size of the town.

The town council which you will be forming will have five elected officials and at least eight appointed ones.

Elected Council Members:

The *mayor* is usually considered the chief administrative officer and the head of town government. The mayor runs meetings of the council and officially represents the town at public functions. The mayor is usually elected by popular vote.

The *town clerk* records the proceedings of the council. It is his or her task to keep all papers, documents, and records concerning the town. Also, the clerk performs other such routine duties as the council might require. The clerk can either be elected or appointed by the council for a term equal to that of the council.

The *town commissioner of the revenue* sets the payment for certain taxes like license fees. In many instances, town property taxes are based on values that were decided by county officials. Sometimes the council assigns the duties of

this office to other officials, instead of appointing one person to be the commissioner of revenue. It may also be an elected office.

The town council is completed with *citizen representatives* based upon districts and/or population. Representatives should be able to express the concerns of those who elected them and may have to forcefully defend or promote their points of view.

Appointed Officials:

The town council appoints other officials to help serve the town's needs.

The *municipal court judge* has power over cases involving relatively small amounts of money and criminal suits involving misdemeanors.

The *town attorney* is the legal advisor to the council and all departments, boards, commissions, and agencies. This person will prepare ordinances for introduction at the request of the council and examine them after introduction. He also gives his opinions on the form and legality of the ordinances. Another duty is to examine all documents representing legal affairs in which the town has an interest. The attorney represents the town in all civil suits and any criminal suits that the council asks him to enter. This person is usually appointed by the council. He or she may work as a private attorney who does part-time work for the town.

The *treasurer* receives all money for the town and deposits it in a bank. He or she also spends the town's funds as needed. The treasurer is responsible for taxes, licenses, and any other charges payable to the town. In most cases, the council appoints the treasurer, according to rules laid down in the town charter.

The *town sheriff* is head of the town police force. His power extends to all offenses against town ordinances committed within the town or within one mile of the town limits. His office sometimes serves warrants or summonses. The sheriff can either be elected or appointed to the council.

The *planning commission* is responsible for helping the town's resources develop in an orderly way. It also makes recommendations on all public improvements. The council gets advice from the planning commission when zoning different pieces of land for residence, business, industry or for other purposes.

Questions:

1. In what mode or modes do these public servants operate?
   a. Mayor
   b. Town clerk
   c. Town commissioner of the revenue
   d. Citizen representatives
   e. Municipal court judge
   f. Town attorney
   g. Treasurer
   h. Town sheriff
   i. Planning commission

2. A person may take a Public Service position unsuited to the work mode/personality characteristics she or he sees as part of "self". What might be the results?

3. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 2 Electing Council Members

Purpose:

To match job needs with personality characteristics.

Steps:

1. Nominate members of the class for the offices of mayor, town clerk, commissioner of the revenue, and two citizen representatives. Choose the people who are best qualified, not the most popular.

2. Students nominated should give a one to two minute campaign speech and tell:
   a. why they feel they might be good at the position, and
   b. what they would do for the community if elected.

3. After hearing all campaign speeches, mark the ballot which your teacher will supply.

4. Vote and place your ballot in the collection box.

Questions:

1. What were some of the qualifications you considered important for elected officials?

2. You will recall from Activity 9 that the knowledge needed to perform a job is called the "content". How important is content when you are selecting a person to do a job?

3. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 3 Selecting Local Officials

Purpose:

To appoint several town officials.

Steps:

1. The mayor will call the meeting of the council to order. The rest of the class will be community residents.

2. The first order of business will be to appoint the treasurer, town sheriff, town attorney, and municipal court judge. Those interested in serving in these positions should make this known to the town council. The members of the Planning Commission will be appointed in Activity 15.

3. Next, the five council members will open the meeting to a question and answer period with community residents. The mayor will adjourn the meeting.

Questions:

1. What influences the selection of officials, besides their suitability for working in a certain mode?

2. In which work modes do politicians most often work? Public servants?

3. Name as many occupations as you can in Public Service Administration.

4. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Summary:

Everyone works in one or more of the work modes all the time. The modes can be found in all clusters, including the Public Service Cluster. Of all the modes in public service, the social work mode (helping people) should be the most outstanding. For leadership positions, the enterprising and investigative modes are needed too.

Activity 15

Modes in Environment

A part of your community government is the Planning Commission. Its responsibility is to plan for orderly growth and development in the community. Persons appointed to the commission must be concerned with their community as well as have some skill in dealing with its problems.

Since a body like this is not full time, its members must work at other jobs and meet as they are able to do the work of the organization. Their daily work may place them in work modes different from the ones they use as members of the Planning Commission.

For example, a construction engineer may be a member of the Planning Commission because of his knowledge. The work of the commission often involves dealing with people and doing routine tasks which may be drastically different from the mechanical surroundings in which he usually works. The group may not work well together until each member can both apply his knowledge and function in his most comfortable work mode as well.

In Activity 15, you will examine the Environment Cluster and undertake some of the tasks of a Planning Commission. The members of this committee often deal with problems of the environment in their community. They must balance the growth and development of industry and business with the protection and maintenance of the natural environment.

Environment
- Disease Prevention
- Pollution Prevention and Control
- Environmental Planning
- Resource Control

(Picture)

The number of occupations in the Environment Cluster has increased since the early 1960's. At that time, many people began to consider the effects of 1) wasting our natural resources and 2) the effects of polluting the environment. Pollution control laws have created a number of these occupations.

Occupations are found in —

1. *Pollution Prevention and Control:* measuring and regulating pollutants in water, soil and air,
2. *Disease Prevention:* testing for the misuse of food additives, preservatives, and pesticides as well as controlling disease-carrying pests,
3. *Environmental Planning:* planning for land use in order to avoid the problems of overcrowding, poverty areas, and lack of necessary services, and
4. *Resource Control:* studying marine resources, recreational resources,

conservation, pest control, and fire control.

Many of these same kinds of occupations are found in two other clusters: *Hospitality and Recreation* and *Agribusiness and Natural Resources.*

Using our land and resources wisely requires a Town Council to be interested in environmental planning. You will look at these issues in Activity 15 as the Planning Commission meets and applies the different skills of its members to serving the town's needs.

Vocabulary Words

environment
pollution
three-dimensional
food additives
perservatives
pesticides
natural resources

TASK 1 Planning Commission

Purpose:

To understand the role of a Planning Commission.

Steps:

1. Read the following information to learn the duties of a Planning Commission.

There are many reasons why communities need to use planning commissions. One reason is to stop *urban sprawl*. This term is used to describe the haphazard way in which some communities and towns expand when no one plans for their growth.

Urban sprawl puts more distance between services that people need. Wouldn't it be easier if your schools, churches, and stores were all located near each other? Keeping these necessary services nearby saves gasoline and prevents the waste of one of our natural resources.

Another waste of resources occurs when builders are allowed to cut down trees recklessly. Planning commissions are concerned with these kinds of regulations, as well as others to prevent the pollution of our water and air.

Would you like it if everyone's house looked exactly the same? A planning commission cannot regulate what a building looks like, but it can control the types of buildings that are built. This guarantees that the structures built fit the land classification or zoning for that area.

A primary duty of the commission is to establish zoning laws which regulate how a particular piece of land may be used. Different categories of zoning might include: 1) residential (or housing), 2) industrial, 3) business, 4) agricultural, and 5) public lands such as parks, schools, and civic centers.

It is another duty of the planning commission to consider requests to build in the different land-use categories. At some point, it may become clear that a change in the land-use regulations would benefit the community. Other times, applications must be disapproved if they do not agree with the standards set up. Final approval or rejection often rests with

a governing body higher than the planning commission.

Questions:

1. How would you select persons to be on the Planning Commission in your community?

2. What kind of standard would you use in selecting them?

3. Color the Mode pie so that it represents the work environment(s) you experienced in this task.

TASK 2 Selecting Planning Commission Members

Purpose:

To select persons with certain skills to be members of the Planning Commission.

The town council will select class members according to their occupation and interests. The Planning Commission has four committees that need members with certain skills:

Land Use Committee - will make recommendations for parks, schools, and roads *(social concerns)*

Model Committee - will draw and construct a community planning map *(creative/conventional work)*

Ecology Committee - will test the community's water supply *(mechanical skills)*

Research and Survey Committee - will study the natural resources of the community and plan the best way for the town to use them *(conventional/ investigative skills)*

Each class member should decide two things before offering their skills to the Planning Commission:

1) What are your interests in the four areas named?

2) What is your "occupation" and what is the relationship between your occupation and the role you may play on the Planning Commission?

Steps:

1. The mayor will open a meeting of the Town Council to select members of the Planning Commission.

2. The Town Clerk should write the four committees on the board while members of the class are deciding on which committee to serve.

3. In turn, each class member who is not already serving as an elected or appointed official should volunteer for one of the committees. Each person should (a) tell the Council what *occupation* he or she has and (b) tell what *skills* are being offered to help the community planning.

   For instance, you might be a surveyor with valuable engineering skills. You could make contributions in the areas of construction, mapmaking or mining for natural resources.

4. Each committee should have nearly the same number of members. The mayor will have the final word on appointments, though he or she may ask for suggestions from the Town Council.

5. When the mayor has filled all the positions on the Planning Commission, he or she may adjourn the Town Council for the planning committees to meet.

6. The nine town officials should divide themselves among the four committees and join in their work as advisors.

7. Each committee will accomplish one of the next four tasks.

Questions:

1. How can awareness of work modes help the mayor in selection of commission members?

2. What would inspire a person to volunteer for public service?

3. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 3 Land Use Committee

Purpose:

To call a meeting of the Land Use Committee which will recommend future zoning for the community.

Steps:

1. Elect a chairperson and a secretary.

2. Obtain a map of the community from your teacher.

3. Your committee must deal with the problems of locating industry, business, agriculture, recreation and homes in such a way that everyone's needs are met. Each group has special concerns which may conflict with the others' concerns. People would not usually choose to locate their homes in an industrial section of town. On the other hand, it might be helpful to locate recreation areas near homes. You must consider this kind of information in planning for you town.

4. You must first discuss and then decide where to locate the five different zones: 1) recreation, 2) residential (homes), 3) business, 4) industry, and 5) agriculture. It will make your decisions easier if you answer the following questions in your discussion.
   a) Where do most of the people in your town live?
   b) Where do your residents work (business, industry and agriculture)?
   c) What major highways connect the residential areas with the business and industrial areas?
   d) What are the natural boundaries which limit the growth of the town?
   e) What natural resources in the area attract industry or recreation?

5. When you have decided how to zone your community, mark these areas on your map and prepare your report to the Town Council.

Question:

1. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 4 Model Committee

Purpose:

To call a meeting of the Model Committee and make a three-dimensional (3-D) map of the community.

Steps:

1. Elect a chairperson and a secretary.
2. Obtain a map of the community from your teacher and a piece of cardboard large enough to make your 3-D map.
3. Lightly draw lines 2" apart in *both* directions so that there are many little squares on the cardboard (a 2" square will equal 1/10 of a mile.)
4. Using the map which your teacher gave you, scatter sand on the cardboard to look like the hills and valleys of your community. Include important landmarks like rivers, creeks, major interstate highways, and railroads, but do not include any buildings or secondary roads. You might use tape for the highways and railroads, and use crepe paper for the water.
5. Before you add your parks, schools, homes, businesses, and industries, you must send a representative to the Land Use Committee meeting. They will tell you how the community has been zoned.
6. Now you can complete your 3-D map with symbols that represent homes, schools, factories, and so forth. For instance, you might cut out little circles to stand for the location of homes in your community.
7. Prepare a report about what you have done so that the chairperson and/or the secretary can inform the Town Council.

Questions:

1. Did you like this kind of task better than seat work or reading? Why?
2. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 5 Ecology Committee

Purpose:

To call a meeting of the Ecology Committee and test samples of community water.

Steps:

1. Elect a chairperson and a secretary.
2. Obtain 6 samples of polluted or stagnant water and drinking water. Number them.
3. Make a chart for recording your data. Make four columns with these headings at the top:

SAMPLE NUMBER	*pH VALUE or COLOR*	*SUBSTANCE ADDED*	*NEW pH VALUE*

4. Now you will determine the "pH value" of each water sample. Scientists use pH value to show whether samples are *acid* or *alkaline*. An acid sample will turn pH paper red. An alkaline sample will turn the paper blue. Pure water is neither acid nor alkaline; it is *netural* and has a pH value of 7. An acid sample will rank 0-7 and an alkaline sample 7-14. Dip a small piece of

pH paper into each water sample and record whether it is acid or alkaline. If you have a pH color chart, record the actual value by comparing the paper with the chart.

5. Look at each sample under a microscope and make a sketch of what you see.

6. Take the samples one at a time and put a small amount of some different substance in each. Stir the sample and allow it to settle. Now take a new pH reading and record the value. Some substances you might add are rust, soil, fertilizer, rubber cement, detergent or floor wax.

7. Prepare a report for the Town Council and explain what your committee did.

Questions:

1. If this were your job, what would you do for recreation?

2. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

3. Name some occupations which require the skill of using a microscope.

TASK 8 Research and Survey Committee

Purpose:

To call a meeting of the Research and Survey Committee and to identify the resources which might influence the growth of the community.

Steps:

1. Elect a chairperson and a secretary.

2. Make two columns on a sheet of paper—one titled "Natural Resources" and the other "Businesses."

3. Obtain a map of the community from your teacher and use it to learn what natural resources are in your area. Not all resources are above ground and pointed out on the map. Your committee may know that there is coal, oil, minerals, or something else underground. List all resources in the left column, leaving several spaces between them.

4. Obtain a telephone directory and turn to the yellow pages. Find examples of businesses in your community that are closely involved with its natural resources. For example, if "timber" is one of your natural resources, you might list "Jones' Lumberyard."

5. When you have completed this list, you should have an idea if any of your natural resources are not being used or if they are being underused. It is the responsibility of this committee to plan ahead for the community and to find ways to take advantage of its resources.

   Sometimes, a conflict will arise between people with different interests in the community. Some will want to develop resources to the greatest degree that is possible. Others will want to preserve or protect natural resources. Some communities might choose not to "progress," because they find fewer people, less traffic, cleaner air or quieter towns more desirable. Others will argue that development is desirable because it gives people jobs and more money which they spend on other goods and services. This creates a need for even more jobs in the community.

   Your committee has the difficult job of analyzing the direction

which your community's growth is taking. Take one of the three problems listed below and completely think through the consequences of any action. Remember that your research will be important to the community for years to come.

Problem #1

A seam of marble has been discovered under the town park. What kind of things will the Town Council have to consider in dealing with this problem? Write a report to the Council stating the pros and cons of tearing up the park and mining the marble. Include the consequences of developing or not developing this valuable resource.

Problem #2

Write a "State of the Town" report to the Council on all the possible ways the town can grow in the upcoming years. Mention all of your natural resources and their uses. Include any problems that might arise from projected growth, such as pollution. Think ahead and plan for these consequences. If the town loses industry or business and people are out of work, what will happen to public services that are funded by taxes?

Problem #3

One of the industries in your area is dumping its wastes into a stream that runs through your town limits. Area farmers use this stream for watering their livestock, and there have been reports of cattle getting ill. These same farmers are involved in a similar but different conflict with the Health Department.

Certain chemicals used by the farmers have seeped into the ground and polluted the water supply that some residents on the outskirts of town use for drinking water. The Health Department has turned to the Town Council for help. It is your committee's responsibility to prepare a recommendation naming all of the possible choices of action. You must be fair to all sides and wise enough in your advice that the Council's action will serve future needs.

Question:

1. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

2. Why are problems like these difficult to solve?

TASK 7 Reporting to Town Council

Purpose:

To present the recommendations of the Planning Commission to the rest of the Town Council.

Steps:

1. Call the Town Council together again.
2. The chairperson and/or secretary of each committee will tell the Council what their group did and what recommendations they have to make.
3. After each report, the Council can decide what action to take.
4. After the discussion and voting, the mayor can adjourn the meeting.

Questions:

1. How does the work mode of a parti-

cular task change as you repeat it until it becomes a habit?

2. What basic skills are most helpful to a person seeking public appointment? Are they different from those skills a person uses in running for an office?

3. When does play become work? Do work modes change?

4. Which of these simulation activities were you most able to do? Which activities would your parents do better? Which activities would your grandparents do better? Why?

5. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Summary:

We are all part of an environment. In one sense of the word, we are part of a *community environment* – the people and surroundings that we occasionally meet and which indirectly affect our lives as long as that environment is pleasant and safe. In another sense of the word, we are part of a *work environment* – those people and surroundings that daily affect our lives as we are working and playing.

In either case, it takes *people* to keep that environment pleasant and safe. This can even become one's occupation or career.

Questions:

1. What are the conflicts concerning our environment that can arise in any community?

2. How have work environments been made more pleasant?

3. How important is environment to the selection of a career?

4. What kind of environments represent each of the work modes?

Activity 16

Modes in Communications and Media

Although the community environment offers many different kinds of employment, many businesses and industries seem to represent only a certain work mode or occupational cluster. An insurance company would seem to be a good example of the Business and Office Cluster and the enterprising work mode.

However, such a company would also employ large numbers of people working in the conventional mode — bookkeepers, accountants, secretaries, and typists. Other workers, such as the executives, the office manager, the custodians, all would work mainly in other modes. A few workers might be involved with the Communications and Media Cluster.

So, even if you live in a small town with only a few businesses and industries, all of the work modes and many of the occupational clusters are probably represented.

In Activity 16, we will take a look at the kinds of work available in the

(Picture)

Communications and Media

- Motion Pictures
- Journalism
- Telephone and Telegraph
- Radio and Television Broadcasting
- Satellite and Lazer Transmission
- Recording Industry

community represented by your 3-D map. The Planning Commission has now recommended zoning for your town, but not all jobs will be located in the business section. The Park Director, hospital employees, school employees, and many other people will work in different zones.

One way to locate places of employment is through a town directory. In this activity, you will be involved in gathering the necessary information, designing the directory, and making a model.

This kind of task will put you to work in the Communications and Media Cluster. Man has been absorbed in the effort to communicate since his caveman days. Just as man has changed over the years, so have his instruments of communication.

It began with scribbling on cave walls, pounding on hollow logs, and smoke signals. Now we have the telegraph, the telephone, the printing press, radio, television, satellites, and lasers. No matter what means are used, there are many occupations for people interested in communication.

Occupations are found in —

1. *Journalism:* writing and editing the news and facts of interest,
2. *Motion Pictures:* film making,

3. *Telephone and Telegraph:* installing, maintaining, and operating transmission systems,
4. *Recording Industry:* creating and recording sound on discs, tapes, etc.
5. *Radio and Television Broadcasting:* creating, producing, and transmitting broadcasts, and
6. *Satellite and Laser Transmission:* research.

TASK 1 Designing a Signboard

Purpose:

To design and construct a town directory which will help people locate services, points of interest, and possible places of employment.

Steps:

1. Using your 3-D map and information you may have gathered from your work on the Planning Commission, list any community services a stranger might need to know. Include such things as hospitals, schools, newspapers, day care centers, etc. and give them a name.

2. Next list any points of interest in the town like museums, theaters, parks, botanical gardens, etc.

3. Now that you have a list of community services and points of interest, you must decide how many items you can fit onto your directory. Measure the bulletin board you are going to use for the scale model. Estimate how many lines you can fit into that space and choose the items you consider necessary for a community directory.

4. Community directories are often located on the outskirts of town. A passing motorist might find the directory more eye-catching if each listing is also represented by a symbol that is easy to understand. A hospital might be represented by a cross, like this:

Design a symbol for each listing.

5. Construct your directory, taking care that it is easy to read from a distance.

Summary:

Community environments can have many kinds of employment. It should not be hard to find the *kind* of work, the work mode, most suitable to you. However, if you develop unique or special interests, you may be forced to move to a new location. This should be no surprise, since *all* of the 20,000 occupations found in our country today probably would not be found in your community. School will help you begin to recognize not only the work modes that interest you, but these occupational clusters as well.

Questions:

1. How is the job environment similar for a secretary and a custodian in a large office? With what are they both concerned?

2. Which work modes seem to compliment each other? Which do not compliment each other? Why?

3. Why is it easier to find employment in any of the six work modes than it is to find employment in any of the 15 occupational clusters?

4. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Activity 17

Modes in Construction

Part of the reason for zoning and planning community growth is to prevent the construction of too many houses per square mile. Another reason is to prevent the construction of structures which look out of place (such as a high rise in an area of one story homes).

Building is only one side of construction; there are many more. As with other occupational clusters, all work modes are represented in the Construction Cluster. Engineers and researchers work in the *investigative* mode. Architects and designers work in the *creative* mode. You'll find carpenters and machine operators in the *mechanical* mode. Salesmen and foremen have *enterprising* skills. Guides, nurses and consumer advocates all operate in the *social* mode. As in any business, there are typists, secretaries, and bookkeepers working in the *conventional* mode. What these workers all share in common is the Construction Cluster.

Construction may be defined as building

(Picture)

- Construction
  - Wood
  - Metal
  - Masonry
  - Electrical
  - Finishing
  - Heavy Equipment Operations
  - Engineering and Support Services

something — whether a bridge, house, office building, or stadium — at a particular location. It involves preparing and assembling raw materials at this location.

Construction money amounts to about 16% of all the goods and services produced in our country per year. That is a value of 16¢ out of every $1.00. It is a large part of our society, and no doubt it will grow as our need for many kinds of structures grows. Construction in space and in the oceans is an exciting possibility for the future.

Construction occupations can be found in —

1. *Wood Construction:* framing, building and installing cabinets and furniture,
2. *Metal Construction:* ironworking, installing heating and cooling equipment and piping systems,
3. *Masonry Construction:* building walls, fireplaces, and chimneys, setting tile,
4. *Electrical Construction:* installing and testing electrical systems,
5. *Finishing:* insulating, painting, floor covering, landscaping,
6. *Equipment Operations:* operating and maintaining heavy equipment, and
7. *Engineering and Support Services:* drafting, surveying, testing, inspecting.

17 – Modes in Construction

In Activity 17, you will experience the mechanical work environment as you use tools to construct a mini-greenhouse and seedflat.

Vocabulary Words

consumers craftsmen

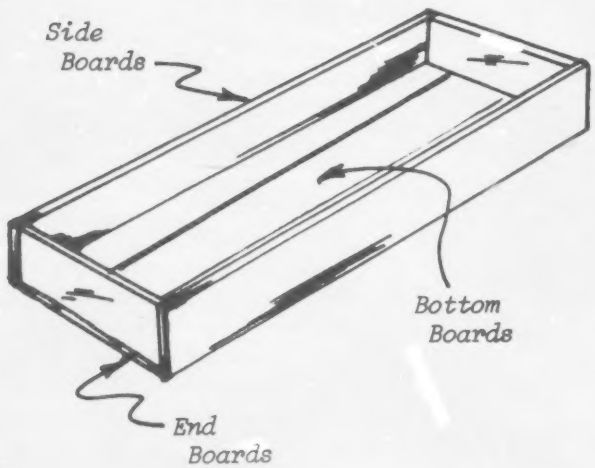
TASK 1 Constructing a Frame House

Purpose:

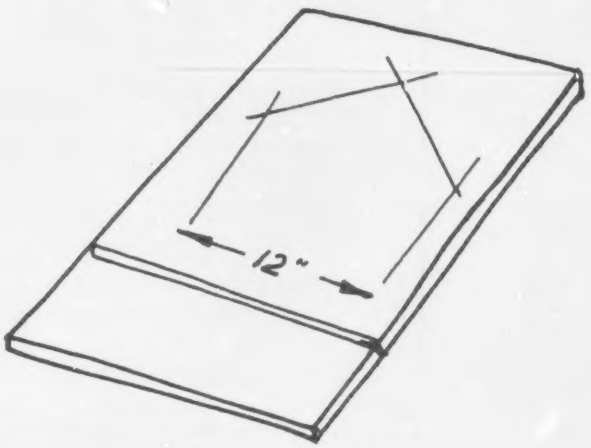
To build a greenhouse frame.

Steps:

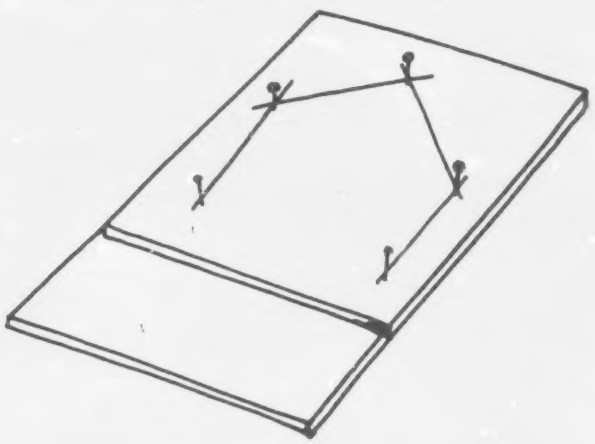
1. Fit side boards (2 pieces, 3/4" X 4" X 36") outside end boards (2 pieces, 3/4" X 4" X 12").
2. Nail the side pieces to the ends to make a rectangular frame 1' wide, 3' long, 4" deep.
3. Nail three bottom boards (3/4" X 4" X 3') to the frame at each end of the box, leaving about 1/4" between boards for drainage. (Side boards are not nailed to sides of bottom boards.)



4. Lay out and mark a scrap piece of wood as shown in the diagram below.



5. Drive 5 temporary nails into the scrap wood (see diagram) to form the support fixture.



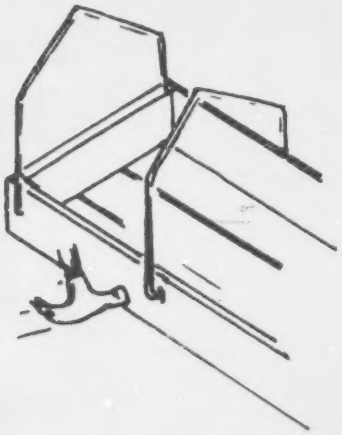
6. Using pliers, remove the hooks from five metal coat hangers.
7. Find the exact center of each hanger and bend it in half with the pliers.

8. Straighten out each hanger enough to put the bend around the center nail and each end of the hanger over and around the other four nails. The hanger should now look like an arch.

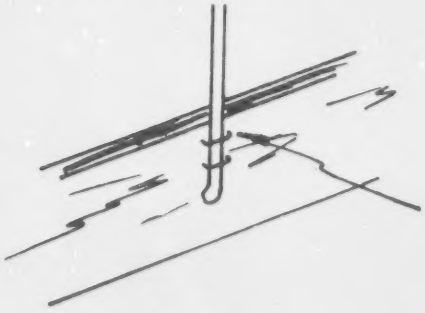
9. Make a 1/2 inch kink on each end of the wire with pliers:

10. Drill five holes, evenly spaced, about 1 inch from the bottom of each side board. (Option: If no drill is available, make holes with a ten-penny nail.)

11. Hammer the kinked ends into these holes.



12. Fasten each arch (hanger) to the sides of your boards with at least two staples. (A large staple gun can do the job, or you can hammer staples into box.)



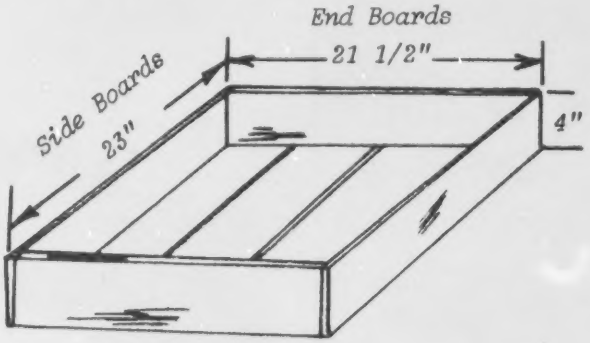
TASK 2 Constructing a Seedflat

Purpose:

To construct a seed flat for the greenhouse.

Steps:

1. Nail the ends (3/4" X 4" X 21 1/2") to the sides (3/4" X 4" X 23").



2. Lay 4 bottom boards together on frame. The two outside boards should be even with the outside of the frame. Leave equal space between the bottom boards (no larger than 1/4" each).

3. Nail 3 nails in each end of each board.

Questions:

1. Do the descriptors of the mechanical work mode accurately describe what you did in Activity 17?

2. How does operating a typewriter differ from using the tools in this activity?

3. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Summary:

Construction is very important to the organization and use of our country's wealth and resources. Many persons who work in the construction field have a mechanical aptitude. This aptitude may be used in several ways: as a problem-solving skill (engineers and researchers), as a physical skill (craftsmen), or in management (contractors and executives).

In another way, the users and consumers of constructed objects often find a mechanical aptitude helpful in using and understanding constructed objects. People with mechanical aptitudes often spend their leisure hours in the maintenance and repair of constructed things.

Interest is the best yardstick for measuring how important mechanical aptitude should be in your career selection. This activity has given you a brief opportunity to try out the mechanical work mode. You will soon be able to choose this kind of activity in some courses, such as The World of Construction or woodworking classes.

Activity 18

Modes in Agribusiness and Natural Resources

The Planning Commission zoned one of the areas in your town for agriculture. This area probably consists of farms, orchards, greenhouses and so forth. The people employed in this part of town probably work in the Agribusiness and Natural Resources Cluster and just as in the other clusters, their occupations represent all work modes. For example, botonists and entomologists work in the *investigative* mode, farm mechanics in the *mechanical*, extension agents in the *social*, farm managers in the *enterprising*, field hands or pickers in the *conventional*, and landscape/nurserymen in the *creative*.

Persons who work in Agribusiness and Natural Resources occupations are entrusted with the task of growing, mining and otherwise obtaining the food, raw materials and energy we need. While the number of farmers in our country has decreased, there is still one person out of every three involved in food production and processing. Millions more work to provide the ore, minerals, coal and oil that we use in vast quantities.

(Picture)

Agribusiness and Natural Resources

- Service
- Research
- Mining and Quarrying
- Productive Agriculture
- Petroleum and Related Products
- Land and Water Management
- Support and Regulations
- Fisheries and Wildlife
- Processing and Marketing
- Forestry

Occupations include those in —

1. *Support and Regulations:* education, conservation, enforcing the laws,
2. *Research:* problem solving and development,
3. *Forestry:* woodland development and use,
4. *Land and Water Management:* management of public land and water resources,
5. *Mining and Quarring:* locating natural resources for use as raw materials or energy,
6. *Petroleum and Related Products:* locating and supplying petroleum products,
7. *Productive Agriculture:* Food production,
8. *Processing and Marketing:* getting raw materials ready for the manufacturer,
9. *Service:* technical assistance work, and,
10. *Fisheries and Wildlife:* preservation and use of fish and wildlife.

Agribusiness and Natural Resources occupations will become more important as our natural resources are exhausted and as our population continues to grow. These are the people to whom we will turn for our energy and food needs.

18 — Modes in Agribusiness and Natural Resources

The Agribusiness cluster deals with the natural world in producing food and other products. The soil and its fitness for growing food is an important area of study for some of the people employed in these occupations. In Activity 18 you will experience their modes of work by testing a soil mixture for pH and then preparing it to grow seeds.

TASK 1 Soil Testing

Purpose:

To test a soil sample for pH.

Steps:

1. Obtain enough soil to use in the greenhouse and seedflat which you constructed in Activity 17.
2. Stir with a stick — do not use your hands. Soil should be free of excess water.
3. Fill a small container with a sample of the soil.
4. Obtain a piece of litmus paper and hold it against the surface of the soil for at least one minute. (Use a piece about 1 1/2" long and 1" wide and hold one end only.)
5. In order to find the pH value of the soil, compare the color of the litmus paper to a pH chart, if available. If there is no chart available, you can still tell that the soil is acid if the paper turns red. It will turn blue if the soil is too alkaline.

Questions:

1. Who will do a soil sample of your garden at home?
2. What course of study would help you understand soil management?
3. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 2 Preparing the Soil

Purpose:

To prepare the soil mixture for your greenhouse and seedflat.

Steps:

1. Based upon the results of your soil test, add sawdust to the soil if it was too alkaline or lime if the soil was too acid.
2. Use a small container (such as a tin can) as a measuring cup. Fill the container with *peat moss* and then place the peat moss in a larger container suitable for mixing the ingredients.
3. Dampen the peat moss with water until it is moist throughout. Do not soak completely as it will hold too much water.
4. Add one small container filled with sand and two small containers of soil.
5. Stir mixture well in the container using a trowel or any mixing tool.
6. Fill the greenhouse frame to a depth of about 3 1/2".
7. Level and firm the soil in the greenhouse by using a small board or a ruler.
8. Moisten the entire mixture (if necessary) so that it is moist enough for planting. The soil should not be too wet or the seeds will rot.
9. Spread 1/4" of *vermiculite* over the soil and level.
10. Mark rows in the vermiculite with the ruler, 2" apart and 1/8" deep.
11. Sow whatever seeds you have chosen thinly and uniformly by tapping

lightly on the sides of the seed package, or sow them by hand if they are large enough.
12. Cover the seeds with a thin layer of vermiculite and moisten lightly.
13. Cover the greenhouse with clear plastic and place in a partially shaded location where the temperature is approximately 70°.
14. Water until two leaves appear on the plants. Do not be confused by the seed leaves which appear at the time of germination.
15. Repeat Steps 1-10 with your seedflat, in preparation for transplanting the seedlings from the greenhouse. Allow more space between rows this time because the seedlings will need room to grow.
16. Carefully dig up each seedling and the soil around its roots. Transplant to the seedflat and water.
17. When the plants are larger, you may transplant into milk cartons and take them home.

Questions:

1. Did you find this activity relaxing? Why do people enjoy gardening so much?

2. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Summary:

The growing of food is very basic to man's needs. Those who inspect, process or otherwise engage in the production of food and raw materials have a very big responsibility to the world's growing population. The Agribusiness and Natural Resources Cluster offers a wide range of career choices which includes every work mode. Such occupations are found not only on the farm, but in processing plants, on ships, and in every town and city – wherever food and raw materials are obtained, processed, or used.

Questions:

1. Will natural foods ever be replaced by pills or 'C-rations'? Why or why not?
2. Name an occupation in Agribusiness which represents each mode.
3. In past years, people have left the farm for the city. Now the opposite is beginning to happen. What has caused both movements?

Activity 19

Modes in Marine Science

Closely related to the Agribusiness and Natural Resources Cluster is the Marine Science Cluster. Persons in this cluster are also concerned with our land, mineral, and food resources being exhausted, just as in Agribusiness occupations. In the future, we will turn more often to fresh and ocean waters as a source of food and and minerals.

Marine Science occupations can be found in –

1. *Research:* studying and analyzing marine life and environment,
2. *Off-Shore Drilling:* surveying, locating and drilling for petroleum and natural gas from platforms or rigs in open water,
3. *Fishing:* locating, harvesting, processing and marketing plant and animal life from the sea,
4. *Aquaculture:* raising and harvesting aquatic plants and animals in a controlled environment (fish farming),
5. *Chemical and Mineral Extraction:* prospecting, analyzing, and extracting chemicals and minerals from the ocean,
6. *Marine Engineering:* developing machines and instruments to collect, sort, analyze and store marine environmental data, and
7. *Surface and On-Shore Support:* maintaining, servicing, and repairing of surface and sub-surface vessels, processing and marketing marine produce.

Navigation skills are helpful to many people working in this cluster. In Activity 19, you will try your hand at locating a sunken ship – the U.S.S. America.

Marine Science
- Research
- Fishing
- Off-Shore Drilling
- Mineral and Chemical Extraction
- Marine Technology and Engineering
- Surface and On-Shore Support
- Aquaculture

(Picture)

Vocabulary Words

malfunction	navigation
log	variable
knots	bow
starboard	stern
port	astern
radar	buoy

TASK 1 Tracking a Lost Ship

Purpose:

To search the log of the U.S.S. America and investigate the possible explanations for why it sank.

Steps:

1. Read the following entries in the ship's log.

DAILY LOG

DATE January 14, 1942 TIME 1600

Left Norfolk, Virginia with seven other ships for Charleston, South Carolina. On board, $250,000 in silver bars. Light rains, wind S.W.W. variable, 10 knots. Heading 37 degrees.

DAILY LOG

DATE January 14, 1942 TIME 1700

Past Hampton Roads and into channel. Bay choppy, winds 12 knots N.W.W.

DAILY LOG

DATE January 14, 1942 TIME 1800

Passed Cape Henry and turned South (160°) into the shipping lane just beyond the whistle. Weather in open sea fair. Wind at 15 knots N.N.E., seas 3-4 feet. Depth 4.9 feet. Bell off starboard bow.

DAILY LOG

DATE January 15, 1942 TIME 2000

Rudder malfunctioning – power lost. Contact with convoy is visual – but poor. Overcast prevents Navigation by stars. Forward speed reduced to 15 knots. Winds 10–15 knots NNE. Sea 3–5 feet. Depth 50 feet. Heading 160°, whistle off port side

DAILY LOG

DATE January 15, 1942 TIME 2100

All communication lost. Unable to identify position, visibility 0. Winds 15–20 knots, directly astern. Drifting about 210° SW. Light flashing off of port bow. Depth 47 feet.

2. The ship apparently sank shortly after the last log entry. At 2300 January 15, 1942 two coast guard ships were searching the general area with radar. They found no trace of the U.S.S. America.
3. Look at your marine map. Find the spot where the ship was when each entry was made in the log. You'll find clues to the ship's position in such words as starboard and bow. You might also locate the bell and whistle and take note of the water depth.
4. Search the map for any possible explanation of what might have made the ship sink.
5. Write a paragraph explaining what you think must have happened.

Summary:

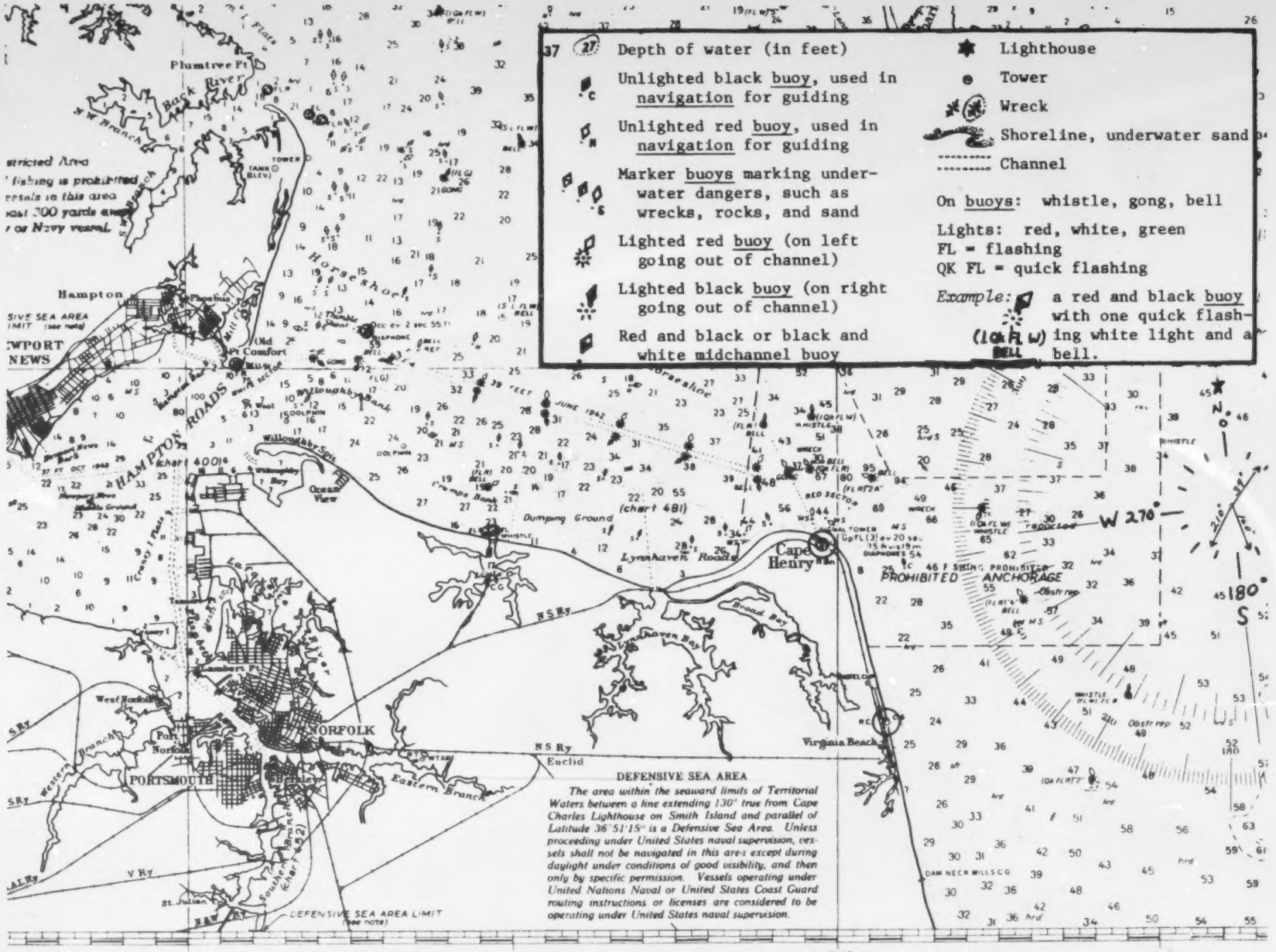
Just as in other occupational clusters, each of the six work modes are present in all those marine science activities in which people are employed. What marks the difference between these occupations and those in Agribusiness is just the particular background of the people working. For example the difference between a biologist and a marine biologist is the environment of the plants and animals which each studies – either land or water.

19 — Modes in Marine Science

Questions:

1. What other occupations involve solving problems with maps and charts?
2. Do problem-solving skills improve with experience? How?
3. Are any work modes found more often in one cluster than in another? Give an example.
4. Do you think people your age like one mode more than another? Why?
5. Name an extracurricular activity for each mode.

6. **Color** the Mode Pie so that it **represents** the work environment(s) **you** experienced in this task.


37 27 Depth of water (in feet)
Unlighted black buoy, used in navigation for guiding
Unlighted red buoy, used in navigation for guiding
Marker buoys marking underwater dangers, such as wrecks, rocks, and sand
Lighted red buoy (on left going out of channel)
Lighted black buoy (on right going out of channel)
Red and black or black and white midchannel buoy
Lighthouse
Tower
Wreck
Shoreline, underwater sand
Channel
On buoys: whistle, gong, bell
Lights: red, white, green
FL = flashing
QK FL = quick flashing
Example: (1QkFlW) a red and black buoy with one quick flashing white light and a bell.
Plumtree Pt
Back River
Hampton
Old Point Comfort
NEWPORT NEWS
HAMPTON ROADS
Horseshoe
Middle Ground
Willoughby Spit
Ocean View
Chart 400(16)
Dumping Ground
Lynnhaven Roads
(chart 481)
Cape Henry
PROHIBITED ANCHORAGE
Broad Bay
Virginia Beach
NORFOLK
PORTSMOUTH
Elizabeth River
Eastern Branch
Southern Branch
Euclid
NS Ry
DEFENSIVE SEA AREA
The area within the seaward limits of Territorial Waters between a line extending 130° true from Cape Charles Lighthouse on Smith Island and parallel of Latitude 36°51'15" is a Defensive Sea Area. Unless proceeding under United States naval supervision, vessels shall not be navigated in this area except during daylight under conditions of good visibility, and then only by specific permission. Vessels operating under United Nations Naval or United States Coast Guard routing instructions or licenses are considered to be operating under United States naval supervision.
DEFENSIVE SEA AREA LIMIT (see note)
W 270°
180° S
80
20
10
76°
50

Activity 20

Modes in Consumer and Homemaking Education

Each community has its own special requirements for child care services. One way to give children a "home away from home" is a child care center. They usually operate during the hours when working parents need their services. Factory-working parents go to work earlier than parents who work in department stores.

Whatever their schedules, they all provide care and training for children. A need for quality child care will continue to grow as the number of working parents grows.

The people employed in these centers are working in the Consumer and Homemaking Education Cluster which include many other kinds of occupations. A child care center is a business. It requires not only teachers and companions for the childre, but also people who direct and carry on the actual operation of the business. Other people, such as grandparents or students, volunteer their time for special activities like story hours or nature walks.

(Picture)

Consumer and Homemaking Education
- Food
- Textile and Clothing
- Housing and Household Equipment
- Family Economics and Home Management
- Family Relations and Child Development
- Extension Service

Occupations in this cluster include —

1. *Food:* researching nutrition, improving food, managing food service and informing the public about food products;
2. *Housing and Household Equipment:* making homes beautiful and efficient through researching products and advising and informing the public;
3. *Textile and Clothing:* testing and developing textiles (woven fabrics), buying and selling clothing and designing fabrics and clothes;
4. *Family Economics and Home Management:* analyzing how people spend their money and run their homes and giving information on home management and family budgeting;
5. *Family Relations and Child Development:* researching theories of human growth and development, styles of living and relations between persons, advising others in these areas, and teaching; and
6. *Extension Service:* relating information to the needs of people, organizing information services.

The field of consumer and homemaking education is now much broader than the "cooking and sewing" idea of the past. People working in the Consumer and

Homemaking Cluster may still deal with food, clothing, or home. They also work with family relations, child development, consumer education, home management, food service, textiles and clothing design, housing and housing equipment and extension services.

Their places of employment may include restaurants, department stores, testing laboratories, schools, factories, or child care centers. Besides consumer and homemaking education, their jobs might also involve journalism, research, testing, sales promotion, or fashion design.

There are jobs in the Consumer and Homemaking Cluster using each of the work modes. After considering the work environment(s) which might suit you, think about where the possible jobs are likely to be in this cluster. They might be in the field fo food service, child care or consumer education. They might be in fashion design or family finance.

You could now be enjoying activities like babysitting which are related to this cluster. Membership in groups like Scouts or 4-H is another way to explore these interests. In school, plan to investigate consumer homemaking couses (personal or family needs) and homemaking occupational courses (food service, cosmetology, practical nursing and so forth), if this is where your interests lie.

In Activity 20, you will act out some of the roles played by employees of a child care center. A great many kinds of work exist in such an operation.

Vocabulary Words

sanitary abstract quality

TASK 1 Child Care Center Employees

Purpose:

To meet the people who work at a child care center and to see what kind of skills they use.

Steps:

1. Read the job descriptions which follow:

Director — responsible for the direction and management of the entire center; hires teachers and staff.
Secretary, Receptionist, Bookkeeper — responsible for dealing with the public; answers the phone; maintains up-to-date medical and educational records on all children; sends statements to parents; pays the center's bills.
Teacher — responsible for all educational materials and activities.
Teacher's Aide — assisting with planning and teaching tasks.
Child Companion — aids teacher; helps individual children.
Cook — responsible for preparing and serving meals; keeps sanitary conditions in the kitchen; purchases food and lunchroom supplies.
Nurse-Nutritionist — responsible for the center meeting all of the conditions required by law; plans menus; gives health examinations; gives first-aid; calls other professional people when their services are needed.
Resource Person — responsible for special interests like piano playing, telling stories, and so forth.
Custodian — responsible for maintain the building and grounds; also maintains playground equipment; sees that the day care center and its equipment are kep sanitary; keeps an account of supplies and equipment needed.

2. Now look at the chart below. It lists the jobs that are necessary to run a child care center and many of the traits or skills that would help a person work well in those positions. Look at the skills carefully and then check each worker who might use them.

Characteristics	Day Care Center Workers											
	Cook 1	Nurse 2	Teacher 3	Secretary 4	Nutritionist 5	Teacher's Aide 6	Resource People 7	Child Companion 8	Receptionist 9	Bookkeeper 10	Custodian 11	Director 12
Being considerate												
Being exact												
Having a pleasant voice												
Understanding children's characteristics												
Knowing activities children like												
Knowing music for children												
Knowing books for children												
Organizing skills												
Having imagination												
Being responsible												
Being polite												
Knowledge of first aid												
Knowledge of food preparation												
Knowledge of nutrition												

TASK 2 Characteristics of Young Children

Purpose:

To understand what kinds of things children like to do at certain ages and to plan a day's activities at the child care center for children from 2 to 6 years old.

Steps:

1. Read the information about each age group below.

About Two-Year-Olds

Two-year-old children are "run-abouts." Although not yet very sure-footed, they have passed through the wobbly months when bumps and tumbles were very frequent. By holding on to a hand or a rail they can go upstairs, one step at a time. They can throw a ball and ride a little three-wheeled car.

They build blocks into small towers, pull open drawers, and delight in taking things out and putting them back. They like to fill and empty things over and over again. Washing is wonderful fun and they go in for this with much dabbling and splashing. If they have been allowed to feed themselves, they can generally eat rather neatly by the end of the second year. They like to help undress themselves.

At two years they speak in short sen-

tences as well as single words. "Dis is mine," "Daddy aw' gone," "Wanta wide car," "Gonna pway blocks," are good examples. Nursery rhymes are beginning to interest them. Some two-year-olds occasionally surprise their parents by reciting short jingles that have been read to them or that they have heard on TV.

People who are with two-year-olds should not be too disturbed if they begin to say "no" to almost everything. This "no" stage is normal in a child's growth.

About Three-Year-Olds

Three-year-old children can *do* things. They can run, jump and climb. They can ride tricycles. They bustle back and forth. up and down stairs, and can even turn corners and stop suddenly.

They can do things with their arms, hands, legs and feet. They delight in playing with modeling clay and sand boxes. They can make a train or a tower out of blocks or cubes. They can fold a piece of paper crosswise or lengthwise, and they can draw crosses on paper with crayons. When playtime is over they can put away toys.

With supervision three-year-old children can wash their hands and put their towels back on the rack or hook. They can eat without spilling and can drink from a cup with enthusiasm, particularly at fruit-juice time.

At 3 children usually speak in short, lively sentences. They pay great attention to adults, listen to their words, and watch their faces for approval or disapproval. They are willing to act on suggestions from grown-ups, such as "Shall we put the blocks away now?" or "Let's put on our hats and coats."

They like to listen to simple stories and nursery rhymes and they love to imagine that they are bears, dogs and other creatures. They are very curious about people and things around them, so they ask many simple questions.

About Four and Five-Year-Olds

Fours and fives injoy active play, dances, and rhythms. They love making up their own songs and dances.

They are beginning to grow socially and discovering ways of getting along with each other. They can now work well in small groups. Their independence is increasing at this age. However, four and fives are still home-centered. Some may feel anxious about separating from Mother the first few days of school.

These children like to perform simple housekeeping tasks at thome and school. Reading, writing, and numbers in books and television commercials are becoming interesting. Dramatic play and stories also appeal to them. Children at this level respond enthusiastically to the suggestion, "Let's have a story." They love to act out stories or chant responses but do not rake directions very well.

This group is beginning to use language well. Children from homes where a foreign language is spoken may need special help.

These young children tire easily and should be helped to pace themselves. They usually need about eleven hours of sleep at night, and some may still need daytime naps.

About Six-Year-Olds

This is an active age — a time of wiggling and squirming, with fifteen or twenty minutes of quiet attention about maximum for these children. An interest in active play is very keen, but this age group has not yet mastered more difficult physical skills such as skipping.

Small muscles of the hands and arms are not yet completely developed. Skill or control in handwork cannot be expected.

Their eyes are not yet mature in size or shape. Copying from the board is difficult and tiring for many sixes.

It is difficult to hurry a six-year-old if he dawdles over an activity. His moods may carry him quickly from laughter to tears.

A desire for independence is growing. Sixes want to do things for themselves but sometimes need a little assistance. They like to discover things and tell about them — often in much detail. Because children are growing fast at this period, they tire easily and need a lot of rest. A variety of activities is best for them — some quiet ones to let them recover after the physical ones they enjoy so much.

2. Now that you understand a little about the different ages of children in a child care center, you can plan a day of activities for each group. Divide into four committees to work on each group's schedule.

3. Each committee should discuss and plan what their children will be doing from 7:30 a.m. to 5:30 p.m. Eating and resting are necessary of course. Also include a wide variety of activities. Use your imagination, but be realistic! Make a chart with these headings:

TIME *ACTIVITY* *MATERIALS*

4. Select a spokesperson to report your plans to the class.

TASK 3 Nutrition Puzzles

Purpose:

To gain an understanding of the nutritional needs of young children.

Steps:

1. Good daily nutrition is necessary for both physical and mental welfare. Child caretakers need to be aware of the nutritional needs of young children when planning meals or snacks. Think of the fuel they need for playing and growing. It takes more than chips and pop.
2. Appetizing, nourishing food supplies the raw materials needed for growing bones and developing eyes. Of course, some food is better for bones and some is better for eyes. In this task, you will match up these bits of information in a nutrition puzzle.
3. Form groups of five students and obtain envelopes of puzzle peices from your teacher.
4. Just as different parts of your body work without communication to build a strong body and mind, so will your team work *silently* to put together 5 complete puzzels. Though your eyes can't "say" they need some fresh green beans, at least you can inform teammates which pieces you need by pointing!
5. Share the information on your puzzle with others in your group.

TASK 4 Helping Children Learn

Purpose:

To act as a teacher of young children — either at home or in the classroom.

Steps:

1. If possible, "borrow" a kindergarten class and choose one or more students to teach. If younger children are not available, divide into groups of six in which you role-play the part of a young child. One person will be the teacher. If you choose to work at home, then set aside a definite time to teach a young child.
2. The first task of teaching is often to capture the attention of your

students. Arrange them so you can see each one, if you have several students. Ask them to be quiet and listen. "Put on your listening ears."

3. Whatever you have chosen to teach (reading a story about fish, singing a song, tying shoelaces, or whatever), the first step is to demonstrate the whole operation. Of course, when your teaching is done through reading, the young child often interrupts to ask questions or make comments.
4. Next, it is helpful to go back over each step or review parts of what you want to teach. This lets you know what the child does and does not understand.
5. Throughout the teaching process, it never hurts to tell your student what he or she is doing *right*. Encourage their learning by complimenting them for trying — even if they still can't tie their shoelaces. Some learning depends on practice or physical development, especially with young children.
6. Share your teaching experience with the class.

For More Information:

Organizations such as 4-H or Scouts can involve you in special training for babysitting. Check with adult leaders for these groups. Your parents might be willing to help get a class organized with the assistance of a civic group or other adults in your community. A babysitting course would include:

- information on child development — the characteristics and needs of children at various ages,
- recreational activities entertaining to young children,
- tips on caring for the physical needs of children (bathing, feeding, etc.),
- safety steps in case of an emergency, and
- hints about being a sitter on which people can count.

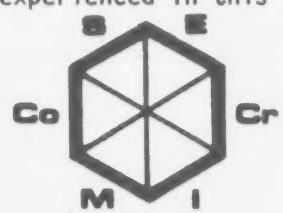
Summary:

One part of the Consumer and Homemaking Cluster is concerned with family relations and child development. Many persons get much satisfaction from helping young people grow and learn.

All of us are consumers and we will all someday have to take care of ourselves, if not someone else. A course in this area is helpful not only to women but to men. When both parents work, household duties and child-rearing are often shared.

Questions:

1. What other occupational clusters are concerned with child care?
2. What subjects in the junior high school are related to this cluster or activity?
3. Can you name five workers needed to operate a child care center who could just as easily work elsewhere? Where?
4. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.



ACTIVITY 21

MODES IN PERSONAL SERVICES

Our country keeps growing every day. There are more goods and services to buy today than there were when you were born. Many people make more money. Many people have more time for recreation than they once did. The need for personal services has increased in the same way. People can better afford to hire others to do the tasks they used to do.

People employed in the personal services occupations are concerned with the personal comfort of others. They work in private homes and in public buildings, like daycare centers, schools and city halls. Most commercial buildings like motels, travel lodges, and office buildings also require the services of people employed in this cluster.

Personal Services occupations are found in —

1. *Domestic Services:* assisting the private homemaker with pets, the house and yard, and so forth,

(Picture)

Personal Services
- Domestic Services
- Lodging and Related Services
- Barbering, Cosmetology, and Related Services
- Drycleaning, Laundry and Apparel Services
- Stewards, Attendants, and Miscellaneous Services
- Food and Beverage Preparation and Service

2. *Food and Beverage Preparation and Service:* preparing and serving food and beverages in clubs, restaurants, lounges, etc.,
3. *Lodging and Related Services:* providing lodging for travelers, providing other services such as cleaning,
4. *Barbering, Cosmetology and Related Services:* styling hair, giving beauty and health advice,
5. *Drycleaning, Laundry, and Apparel Services:* cleaning, pressing, tailoring garments, and
6. *Stewards, Attendants, and Miscellaneous Personal Services:* welcoming, directing, and serving customers.

In Activity 21, you will look more closely at the services provided by persons who care for our homes and buildings. Businesses often find it less expensive to hire the services of a cleaning company than to employ someone to keep the office space clean and attractive.

You will operate such a company in this activity and make an agreement with your teacher to provide cleaning services for your classroom.

Vocabulary Words

complex

patron

apparel

steward

miscellaneous

TASK 1 Organizing Your Cleaning Service

Purpose:

To operate as a company which provides cleaning services for public institutions.

Steps:

1. Your company has just been formed and the first request for cleaning services is from a school classroom. Since your company is new, inexperienced and unaware of the cleaning standards of a public institution, you have decided to hire a consultant (an expert) in the area of maintenance and cleaning. That person will help you decide exactly what needs to be done.
2. Ask your building custodian to help you. He or she can tell you:
   a. the different tasks which the school board would expect to be done,
   b. the materials or equipment needed and whether they can be borrowed,
   c. safety measures and labor-saving advice, and
   d. the amount of time you can expect to spend on this job.
3. Divide the class so that everyone has a job for which he or she is responsible. Select a person to be the *job foreman* (the person responsible for the entire job).

TASK 2 Carrying Out the Service

Purpose:

To undertake your first job as a cleaning company.

Steps:

1. Obtain the materials and equipment suggested by your consultant.
2. The job foreman will assign work crews to each task and name a crew foreman to organize the sharing of materials and equipment in each group. The crew foreman will also keep supplies handy.
3. When the job is finished, invite the school custodian, principal and teacher to inspect your work.

(Illustration)

Summary:

The Personal Services Cluster has grown in importance, as people have been able to afford more help, more travel, and larger, more complex buildings. Large companies now exist which clean entire office buildings at night, when everyone is gone.

Other demands for personal services have increased. There are more pets, pet trainers and groomers. Both men and women are now the patrons of hair stylists. Travel and vacation lodges employ scores of people, not only for lodging services but food preparation and apparel services as well.

Consumers purchase more than just goods. We require all kinds of services to free our hands and our time for leisure activities, such as hiking or stamp collecting.

Questions:

1. Is your building custodian in the Public Service or Personal Service Cluster? Why?
2. What are the advantages to working in personal services?
3. What are the disadvantages to working in personal services?
4. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

ACTIVITY 22

OCCUPATIONS IN FINE ARTS AND HUMANITIES

The Fine Arts and Humanities Cluster includes occupations which express many different feelings and thoughts about art, beauty, right conduct and the society in which we live. Many of the occupations involve not only imagination and creativity, but also education and training in certain skills. Painters, musicians, writers, architects, and historians are a few good examples.

Occupations in this cluster include –

1. *The Visual Arts:* product design, advertising art, and individual craftmanship,
2. *The Performing Arts:* composing and performing in music, theater and dance, producing technical and stage effects,
3. *Occupations in Writing:* journalist, playwright, technical and scientific publications writing, TV/radio script writing,
4. *Architecture:* planning and designing buildings, supervising building construction,

(Picture)

Fine Arts and Humanities
- Architecture
- The Performing Arts
- Occupations in Writing
- Languages and Linguistics
- Religion and Theology
- History and Museums
- The Visual Arts

5. *Religion and Theology:* serving the religious needs of others, teaching, devotional writing,
6. *Language and Linguistics:* studying the science and art of language, translating, interpreting, and
7. *History and Museums:* studying and recording events of the past, preserving historical items.

Training related to the Fine Arts and Humanities Cluster may lead one to work in other clusters. For example, many commercial artists are employed in the field of advertising and design which is part of the Marketing and Distribution Cluster. Historians, interpreters and draftsmen fill some government positions in the Public Service Cluster. The Communications and Media Cluster employes many writers, actors, and musicians.

There are many such areas of knowledge where you cannot draw definite lines to separate their territories. As you begin to notice your own interests in certain areas, you will probably find them in more than one cluster of occupations.

In Activity 15, you decided which areas of your community should be zoned for certain kinds of activities. One area was set aside for industry or manufacturing – an area in which goods are made.

22 – Occupations in Fine Arts and Humanities

There are three ways to produce a good:

a. the artisan's method of *individual craftsmanship*,
b. *custom production* of goods with special requirements, and
c. *continuous production* or assembly line production

In Activity 22, you yourself will use the oldest method still practiced in making goods – individual craftsmanship or the artisan's skilled and creative work. This style of work is found in both the Manufacturing Cluster and the Fine Arts and Humanities Cluster.

In Activity 22, you will design a product and then make a three-dimensional model of it. You also will have an opportunity to promote your product and explain its good features.

Vocabulary Words

craftsmanship full-scale

TASK 1 Designing a Belt Buckle

Purpose:

To design and sketch a belt buckle.

Steps:

1. As an individual craftsman, you have decided to sketch a design for a new belt buckle. The design should be simple, useful, and attractive, and the sketch must be a full-scale one.
2. First, make a thumbnail sketch of several designs you would like to consider, and then choose one. (A thumbnail sketch is a small, rough sketch.)
3. Next, deicde what size the buckle will be and make your final drawing. This sketch should be a full-scale drawing which looks exactly like you want the buckle to look, including any decorative designs.

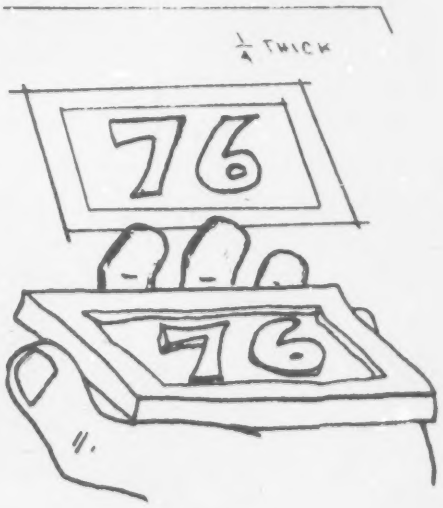
TASK 2 Making a Model

Purpose:

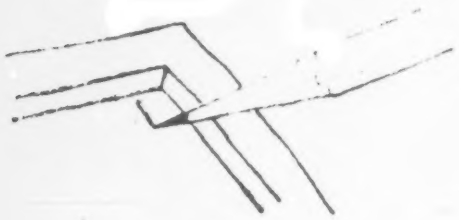
To make a three-dimensional model from your belt buckle sketch.

Steps:

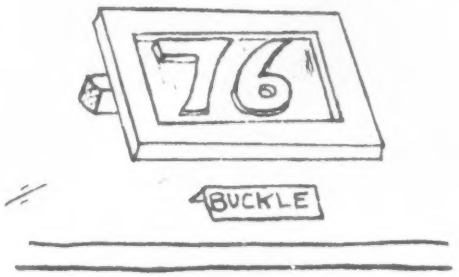
1. Obtain working material (clay) from your teacher and find a clean, flat surface on which to work.
2. While looking at your sketch, begin to shape the clay to match the *outline* of your sketch.



3. Using an old pen, pencil or popcycle stick, add any details to the model that appear in your sketch.



4. After seeing a three-dimensional model of the sketch, you may wish to make some small changes in your design. Do so at this point.
5. Let your model harden overnight. (Caution: After hardening, your model will be very brittle. Be careful not to break it.)
6. With a piece of sandpaper, carefully sand the clay to remove any fingerprints or surface marks.
7. Next, spread a thin layer of white glue over the model. This will help strengthen it and provide a better surface for painting.
8. Using either a gold or silver paint, carefully paint the model and let it dry.
9. Take either a black (for silver) or brown (for gold) paste shoe polish, and rub a small amount of polish over the painted model. Wipe dry. This adds the realistic look of metal to your clay model. If it does not look like a real buckle, repeat Steps 8 and 9.
10. Mount your model on a display board with glue or tape. A display board might consist of a piece of cardboard that has been covered with construction paper or cloth. Be creative – the purpose of the display board will be to show your model in an attractive way to others.



TASK 3 Supporting the Design Selection

Purpose:

To persuade the management of a local belt company that your design should be selected for manufacture by giving a 60-second oral presentation.

Steps:

1. Look at your model mounted on the display board, On a piece of paper, note all the reasons why your design is more practical, more useful, more attractive and so forth.
2. Now decide how you will present your arguments. Practice if possible. Remember, your task is to persuade the management (your class) that your design should be selected for production.
3. When asked to do so, make your 60-second presentation to the class.
4. When all presentations have been made, the class will vote to select the best-designed belt buckle.

22 – Occupations in Fine Arts and Humanities

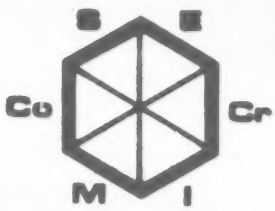
Summary:

Every person expresses his or her own style in such ways as clothes and a general manner of doing things. There are many hobbies which allow a person to develop these interests in expression – like painting, photography, writing or clothes design.

People with an especially creative or imaginative style of doing things often make a career of *self-expression*. Many of these kinds of occupations are found in the Fine Arts and Humanities Cluster, but there is a demand for people who can express themselves in many more of the clusters.

Questions:

1. Explain why it is necessary to design a product before manufacturing it.
2. In what mode did you operate when you sketched a design and made a model of that design from clay? Explain.
3. Did you enjoy that mode of work? Yes____ No____ Why?
4. In what mode did you operate when you presented your design to management? Explain.
5. Did you enjoy that mode of work? Yes____ No____ Why?
6. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.



Activity 23

Manufacturing Occupations

Whether a product is made by one person or whether it is made by one hundred, that product is manufactured. The Manufacturing Cluster involves all of the people who make things that we use in our everyday lives. These goods may be as small as a pin or as large as the rocket that sent the Viking spacecraft to Mars.

(Picture)

Many years ago when a person needed something, he or she made it. If a farmer needed a new wagon to carry hay, it was constructed right on the farm — from the wheels to the final assembly. Today if a farmer wants a new wagon, she or he may go to a local dealer and purchase one that has been produced, distributed, advertised and sold by hundreds of workers.

There are many occupations in manufacturing. You can find people who research and experiment on new materials for automobile construction and people who design new refrigerators. There are people who investigate how to make a stereo sound more like a live concert. There are people who actually make mini-bikes and people who train others to construct them. As you can see, there are many styles and types of work in the Manufacturing Cluster.

Manufacturing
- Management
- Scientists
- Engineers
- Technicians
- Craftsmen
- Skilled Workers
- Semi-Skilled Workers
- Un-Skilled Laborers

Manufacturing occupations are found in —

1. *Management:* managing industries, sales, personnel, and business,
2. *Scientists:* researching, developing, and improving materials, designs, mechanical operations, and products,
3. *Engineering:* taking scientific research and making practical use of the findings,
4. *Technicians:* helping scientists and engineers by having skills in a particular area such as metals or fabrics, working with craftsmen,
5. *Craftsmen:* working at a particular trade as a highly skilled worker and leader,
6. *Skilled Workers:* making, assembling, and operating complex machines and tools,
7. *Semi-skilled Workers:* assembling, inspecting, helping skilled workers, operating machinery, and
8. *Unskilled Laborers:* working at jobs that require few skills and little education.

In Activity 22, you designed a product and made a model of what it would look like if manufactured. Designing (a creative work mode) is one of the first and most important steps completed before a product is actually made. You used the artisan method of production, which is very creative and usually finds one individual making one good at a time.

In Activity 23, you will manufacture a good using the continuous production method or the assembly line. Such production usually involves the manufacture of a large quantity of the same product in a short amount of time. Many people must work together to make and assemble that final product, but each person's task adds to the completed product.

Vocabulary Words

distributed — assemble

salable — efficient

TASK 1 Designing a Choker

Purpose:

To choose a design for a choker to be manufactured and to write a detailed description of the design.

Steps:

1. As a class, read Task 3 to see how the chokers will be produced.
2. Examine the materials available to make chokers.
3. Discuss the different design which might make attractive chokers — what they look like, who would wear them, and what materials would be required.
4. Sketch or draw several designs.
5. Choose 3 samples to actually put together.
6. The entire class will decide on the design they like best. Only one design will be manufactured.
7. On the board write a description of the choker that the assembly line will produce.

TASK 2 Preparing for Assembly Line Production

Purpose:

To divide the class into a *Training Division* which will prepare directions for each task and train workers and a *Production Division* which will organize the production into a step-by-step course of action.

Training Division

Steps:

1. Read Task 3 again and make a list of the different jobs that will need to be assigned to the workers.
2. Divide into 6 groups, so that there is at least one person from the division working on each of the different jobs.
3. Each group will write a detailed description of the tasks to be performed. Be very clear about each step.

Example: CUTTER

a. Lay cord on yard stick.
b. Place end of cord on end of stick.
c. Measure 24".

(Continued on page 97)

(Continued from page 96)

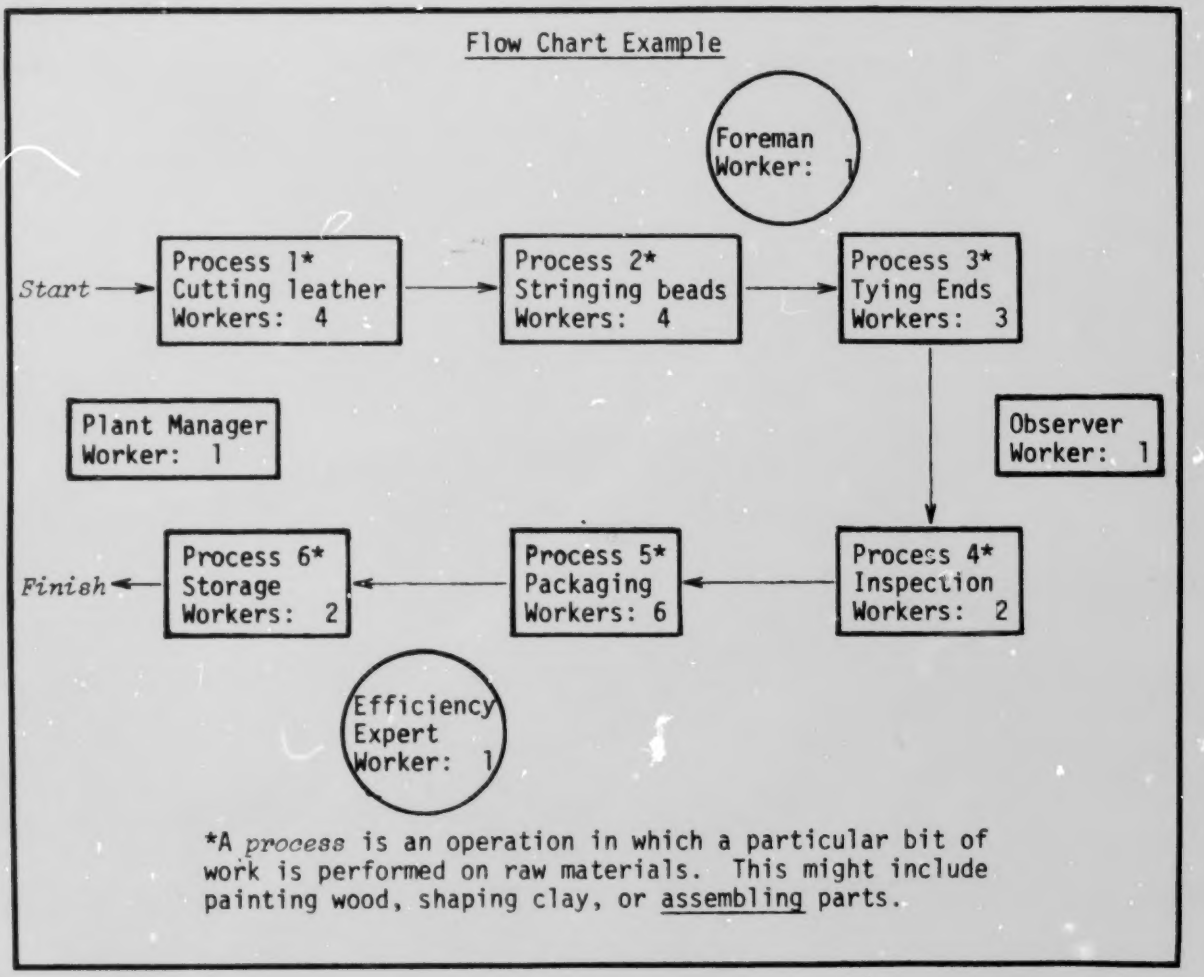
d. Stretch tight.
e. Place thumb on cord – near 24" mark.
f. Cut with scissors.
g. Lay cut cord on desk or table next to 1st assembly line worker.

4. Once you have completed the instructions, try to do the task for which they were written.
5. Each group within the Training Division will be responsible for training the workers assigned to their stations in Task 3.

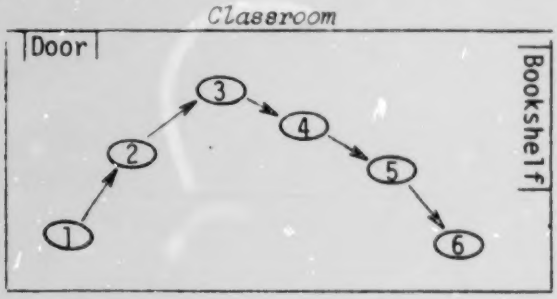
Production Division

Steps:

1. Read Task 3 again and make a list of the different jobs that will be assigned to the workers.
2. Decide the order in which these tasks will have to be performed.
3. Decide how many workers are needed for each job and assign each member of the class to a job. Members of the Training Division should be assigned to the process which they will be teaching to other workers.
4. Draw a *flow chart* on the board which shows the step-by-step plan of how the workers will produce the product. See the example below for suggestions on organizing your flow chart.
5. Arrange the furniture in your room so that you have 6 stations, each with enough working space to contain the workers and materials assigned to it. The production line does not



need to be a straight line if your classroom space won't allow it. It might look like this:



6. If time permits, make signs for each station.

TASK 3 Manufacturing by Continuous Production

Purpose:

To produce one leather choker for each person in the class by assembly line production.

Steps:

1. A spokesperson from the Production Division will explain the *flow chart* and how the chokers will be made.
2. The teacher will assign all class members to a job and a station.
3. Go to the station where you will work.
4. Members of the Training Division will now train all workers.
5. Make a trial run by assembling *one* choker from start to finish. This will make you familiar with your special job on the line, show you what the finished product will look like, and call your attention to any problems that are going to arise.
6. Begin production upon a signal from your teacher.

Process 1: Leather Cutting
Cutters measure and cut cord and hand to next process.

Process 2: Bead Stringing
Line Workers sort and string beads according to instructions provided by Training Division.

Process 3: Ends Tying
Line Workers tie ends of cord as outlined by the instructions.

Process 4: Inspection
Quality Control Inspectors make sure items manufactured are salable and have an acceptable standard of quality.

Process 5: Packaging
Packagers place one item in a package..
Labelers staple bag and label.

Process 6: Storage
Receivers receive, count and store packaged items.

There are other people important to the production line:
Plant Manager oversees entire production, sometimes assumes the responsibilities of the safety engineer.
Saftey Engineer makes sure workers observe safety regulations.
Foreman oversees two or three processes, takes directions from the plant manager, keeps materials supplied, moves workers from one process to another to keep production flowing smoothly.
Efficiency Expert observes line production and makes suggestions for improvements.
Observer observes and records work modes.

7. On the advice of the efficiency expert your teacher may ask you to switch jobs.
8. Stop production when 1 item has been made for each person in your class.
9. The observer will make a report on the work modes used at each station.
10. Rearrange furniture and clean up.

Summary:

Manufacturing is a very important part of our economy. Persons whose occupations are in the Manufacturing Cluster include scientists, engineers, technicians, craftsmen and skilled, semi-skilled and unskilled workers, as well as the administrators and managers found in any business. Anything which is not made at a building site is said to be "manufactured."

There are more than 1600 different manufacturing industries and more than 8000 different jobs directly concerned with the manufacture of goods.

Questions:

1. How would you define manufacturing in your own words?

2. In which work mode did you operate during the production of the necklace? Explain.

3. Discuss the different work modes used on a production line. Note the mode(s) in which each person below would work.

Cutter_____	Receiver_____
Line Worker _____	Plant Manager_____
Foreman_____	Observer_____
Packager_____	Safety Engineer____
Labeler_____	Efficiency Expert__
Quality Control Inspector____	

4. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Activity 24

Health Occupations

One field of occupations absolutely necessary to every community is the Health Cluster. People who work in these kinds of jobs are concerned about health protection and health care.

These individuals may work in private offices, laboratories, clinics, hospitals or schools. They are usually interested in working with and helping other people. However, bookkeepers and laboratory technicians would be examples of workers who might carry out their tasks alone.

Health occupations may be found in --

1. *Mental Health and Mental Health Services:* solving problems that have a powerful and disturbing influence on us,
2. *Medical and Biological Science Services:* fact-finding jobs which support the whole medical profession,
3. *Dentistry and Dental Science Services:* treating and preventing problems of the gums and teeth,

(Picture)

Health
- Medical Professions
- Mental Health and Mental Health Services
- Medical and Biological Science Services
- Dentistry and Dental Science Services
- General Hospital and Medical Office Related Occupations
- Administration of Health Services
- Personal and Community Health Services
- Pharmeceutical Science and Services
- Professional Medical Supportive Personnel
- Medical Emergency Services

4. *General Hospital and Medical Office Related Occupations:* keeping records, handling supplies and helping nurses,
5. *Medical Emergency Services:* responding to emergency calls, judging and reacting to the emergency, and assisting the emergency room staff,
6. *Administration of Health Services:* managing and directing health services in hospitals, health departments and voluntary agencies,
7. *Personal and Community Health Services:* attending the ill and preventing health problems both in homes and in schools, clinics and industries,
8. *Pharmaceutical Service and Services:* preparing and/or selling drugs and health supplies,
9. *Professional Medical Support Personnel:* supporting medical services by analyzing tests, diagnosing problems, managing patients, and so forth, and
10. *Medical Professions:* giving direct medical care.

24 - Health Occupations

Great importance has been placed on preventive medicine and better health care in our century. There is a continuous need for health workers and an exciting variety of jobs to consider.

You might begin exploring health careers through voluntary services, such as being a "candy striper" in a hospital. Assisting trained workers, either as a paid or unpaid helper, is a valuable way of gaining an understanding of health careers. Often a person enters the health field by training for one or two years and then continuing preparation in a more specialized area.

A common problem requiring the services of health workers is the industrial accident. Activity 24 will give you an idea of what to do when an accident occurs and help is needed.

Vocabulary Words

technician	respiration	specialize
undergo	diagnose	inflate

TASK 1 Accident Emergency

Purpose:

To understand what responses are most helpful when an emergency happens.

Steps:

1. An accident happens in a factory near you. The person injured slipped while approaching a staircase and has suffered a blow to the cheek and mouth. There are three things to do in such an emergency:
   a. call for help,
   b. care for the accident victim, and
   c. control the crowd.
2. When calling for help, you must give clear, exact information. The factory medical attendant or the rescue squad will need to know several things:
   a. your name,
   b. name of the accident victim,
   c. address of the factory,
   d. location of the accident in the factory,
   e. type of injury,
   f. number of persons injured, and
   g. time of accident.
3. Caring for the accident victim is an important task often accepted by co-workers and bystanders. The victim must be kept quiet and as comfortable as possible until help arrives. Often a blanket or coat thrown over the person will help to prevent *shock*, a condition in which the blood vessels expand too much. This may occur because of excessive bleeding, severe burns, allergic reactions or other powerful disturbances to the body or the emotions.

   Cover the victim *lightly* unless it is a very warm day, in which case a person should not be covered at all. If the victim is able, he or she should lie flat with the feet elevated about six inches. If there is a head, chest, or back injury or if in doubt about the injury, keep the victim *flat*. Give absolutely no liquids to a person undergoing shock unless you have medical training.
4. Sympathetic and curious people can turn an emergency into a disaster, if the crowd is not controlled. Plenty of breathing room is needed for the victim. Medical attendants must be able to care for the person as soon as help arrives. Too many people standing close make even simple things, such as talking and hearing, much harder. Being unable to hear might be good, however,

if the victim must listen to comments like, "That looks terrible!" Cautioning bystanders against making those kind of remarks is another "angle" to crowd control. Generally, the crowd needs to be kept at a distance .

TASK 2 Emergency Room

Purpose:

To admit the victim to a hospital and make certain routine checks before treatment.

Steps:

1. Fill out the Hospital Emergency Room Check-In form below. Write the facts which you know and use your imagination to complete the rest of the form. Leave blank the "Vital Signs" group until you have finished Tasks 2, 3, and 4.

   Name_____
   Address_____
   Telephone_____
   Employer_____
   Employer's Address_____

   Insurance Company_____
   Type of Insurance_____
   Policy Number_____

   Nature of Emergency_____

   Description_____

   _____

   Vital Signs: *Temperature*_____
   *Pulse*_____
   *Blood Pressure*_____

2. There are certain *vital signs* of your body's health that give a doctor important clues about what's wrong with you. In fact, respiration and pulse are so basic to life and health that no sign at all means death.

   Blood pressure is another vital sign the physician might check before beginning treatment. This is the pressure caused by the blood pushing against the wall of the blood vessels. Blood pressure is basically affected by general health, a person's age, and the amount of stress or anxiety she or he suffers in daily life.
3. In order to get a better idea of what is meant by a person's vital signs, you will look more closely at each method involved in checking a patient in Tasks 3, 4, and 5.

TASK 3 Blood Pressure

Purpose:

To check a person's blood pressure.

Steps:

1. Have the person sit and support his or her arm on a table at about heart level.
2. Make sure all air is out of the pressure cuff and then wrap it around the upper arm so that the sewn strap faces up. The cuff will cover the elbow.
3. Locate the pulse on the inside of the elbow on a big vein, which is a tube carrying blood from the heart to the main parts of the body.
4. Once you have located the pulse, put the stethoscope earpiece on and put the stethoscope head on the vein.
5. Close the valve on the inflation bulb so that when you squeeze it, air will begin to inflate the pressure cuff. Pump the cuff to a reading on the meter of 180 mm.
6. If you hear a person's pulse at 180 mm. after pumping the cuff, then you may pump 20 mm. more until there is no pulse sound.
7. Release the valve on the inflation bulb slowly and slowly let the air out of the cuff. Watch the meter and record the point at which you hear the first pulse sound. This is called systolic pressure.

8. Continue listening to the pulse until there is a change in the quality of the heart beat from loud to soft. Record this point on the meter. This point of very faint heart beat is called diastolic pressure. It may seem as if there is no pulse sound.
9. Let all of the air out of the pressure cuff and remove from the patient's arm.
10. Together the systolic reading and the diastolic reading are recorded as a person's blood pressure. The two readings are separated by a slanted line, like this: 110/70. The first number is always the systolic pressure.
11. A normal, healthy young patient should fall in the 100-120 mm. range for systolic pressure and 60-80 mm. for diastolic pressure. As mentioned earlier, a person's blood pressure will vary somewhat according to weight, worry, genreal health and so forth.

TASK 4 Temperature and Pulse

Purpose:

To check a person's body temperature and pulse.

Steps:

1. A person's body temperature may vary slightly with activity, health, seasonal changes and so forth. Generally it stays within a degree of 98.6 degrees.

   Fever is a state of unusually high body temperature. It is one of the body's responses to an invasion of harmful bacteria or virus. Fever usually means there is an infection somewhere and that the body is trying to rid itself of the troublesome "bug." A high fever is often followed by a quicker pulse.

   This higher temperature shows the body has speeded up its activity. It rushes blood to an infected area. It also produces more white blood cells which are part of its defense against infection. Fever is a condition not to be ignored, since a very high one can mean brain damage or death.
2. The pulse is another vital sign of health. The average beat is around 60-80 times per minute. A slower than normal pulse can be found in a body at rest or a body with a low metabolism rate. Metabolism refers to those actions that build up food into substances the body can use and then breaks them down while releasing energy.

   A fast pulse rate points to a body under stress, such as a person going into shock, a body fighting infection, or something as simple as a person doing physical exercise. The heart must beat faster to meet these extra body demands.
3. Try checking a person's temperature and pulse when they are rested. Then take the two readings after physical exercise.

TASK 5 X-Ray

Purpose:

To locate various bones and body organs in some samples of X-rays.

Steps:

1. Often when accidents occur, X-rays are used to help diagnose the injury. An X-ray is a photograph made by exposing a photographic plate to a certain kind of radiation. X-rays will pass through some solid materials, in this case skin and body tissue, because they are not as solid as bone. In order to photograph certain organs, like the stomach, gall bladder, and kidney, X-ray

workers use a dye that will make the organ's condition more visible.

2. Look at the X-ray samples which your teacher has and see how many organs or bones you can identify. Your teacher or a professional health worker can help explain them. Perhaps you can figure out why the X-rays were needed in the first place.

TASK 8 Accident Report

Purpose:

To record the circumstances of the factory accident for an insurance accident report.

Steps:

1. An accident victim and any witnesses to an accident are usually asked to supply the insurance company with a report soon afterward. These accident reports often are used in court, if a suit is filed against someone.
2. Fill in the form below with the information you have. Try to describe the accident as you think it might have happened.

ACCIDENT REPORT
FAIR INSURANCE COMPANY

Date _____

Accident Victim _____

Address _____, _____
Zip _____
Telephone _____

Employer _____
Location of Accident _____
What was the victim doing in the above location?

___Business ___En Route
___Recreation ___Home

Witness _____
Address _____
Telephone _____

Description of accident:

Signature of Witness:

_____

Read the above statement carefully as it may be used in a court of law. I agree to appear in a court of law to answer further questions concerning the accident if necessary.

Summary:

Health occupations attract people who are interested in helping others. There is a continuous need for these kinds of workers in most communities. The Health Cluster includes a large variety of skills. Among them are surgery, laboratory analysis, dental hygiene, public relations, recreational therapy, ambulance assistance and many more. Many occupations in the field require both education and on-the-job training.

In most communities there are opportunities to volunteer your services in health-related ways. Many groups such as the Scouts sponsor regular service projects. They might involve you with elderly people in nursing homes or patients in Veterans Administration hospitals.

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24 - Health Occupations

Questions:

1. What job possibilities within this activity would you actually like to try in real life? Why?
2. List three other occupations in the Health Cluster.
3. Most of the occupations in the Health Cluster share one work mode in common. What is it?
4. Why will the need be felt for more workers in the health field for years to come?
5. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Activity 25

Public Service Occupations

Public service occupations are often related to government in some way. In the United States, the public servant usually works in either the administrative, legislative or judicial branch of government.

You looked at the kinds of people employed in town government and administration in Activity 14. These same people also made local laws. State-wide and nationally, there is a separate group of people called legislators who do this. Of course, there are many related occupations which carry out administrative and legislative orders to provide government services. These include occupations in the postal service, public health, law enforcement, education, recreation, and other departments, bureaus, and services in the government.

In Activity 25, you will consider the judicial branch of government and the kinds of occupations concerned with a typical courtroom trial. This representative trial involves the individual who suffered injuries from an accident on the job in Activity 24. In Activity 25, the employee has decided to bring suit against the employer. The court must listen to both sides of the matter and then decide if the company failed to meet legal safety requirements. If the company is found not guilty, then the accident is the worker's responsibility.

Vocabulary Words

summons	strategy
appeal	distortion
complainant	mistrial

TASK 1 The Courts

Purpose:

To gain an understanding of the court process and to look at the people who play important roles in it.

Steps:

1. Different kinds of legal action may be heard in special courts. The lower local courts usually deal with minor crimes and small amounts of money. There are others, like the Circuit Courts, which generally hear cases of appeal.

Another way to divide the responsibilities of the courts is to look at the kind of law practiced in them: constitutional law, civil law, and criminal law.

a. *Constitutional law* handles problems concerned with the interpretation of the federal or state constitution.

b. *Civil law* deals with personal rights and property rights, such as contracts, personal injuries, and divorce settlements.

c. *Criminal law* covers behavior which is considered harmful to the

society, such as kidnapping, burglary, and fighting.

An act of wrongdoing in any one of these areas can be termed a misdemeanor or a felony. A *misdemeanor* is a less heavy offense and is punishable by a fine or a short term of imprisionment. A *felony*, however, will net the wrongdoer death or imprisionment in the penitentiary for one or more years.

2. Think about the responsibilities of these court employees:
   a. *Bailiff:* a court officer having custody of prisoners;
   b. *Clerk of Court:* an employee of the court charged with the care of records;
   c. *Court Stenographer:* one who records the court proceedings in shorthand;
   d. *Defendant:* a person formally accused of committing a crime;
   e. *Defense lawyer:* one who advises the accused, represents him in court, and generally acts on his or her behalf;
   f. *Investigating Officer:* a member of the local law enforcement agency which investigates the case;
   g. *F. B. I. Agent:* a person employed by the U. S. government to investigate violations of federal laws;
   h. *Judge:* a public official who hears and decides cases in a court of law;
   i. *Juror:* a legally qualified person who is summoned to serve on a jury and give a verdict according to the evidence;
   j. *Magistrate:* lower court official who decides which complaints will be brought to trial;
   k. *Medical Examiner:* a public official who determines the amount of physical injury suffered by a victim;
   l. *Plaintiff:* the person who formally accuses an individual or a business of wrongdoing;
   m. *Prosecutor:* the attorney who represents the state, county or national government in a court of law;
   n. *Witness for the Defendant:* one who testifies in favor of the accused;
   o. *Witness for the Prosecution:* one who testifies in favor of the plaintiff;

TASK 2 A Suit

Purpose:

To establish the background of a court proceeding.

Steps:

1. Recently an accident happened in a local factory when an employee slipped and fell against a staircase. The employee is charging the company with failure to meet legal safety requirements.
2. The plaintiff has explained what happened to local court officials and has filed a written complaint. Fill in the complaint form below. Use your imagination for the information you do not know.

Written Complaint for Arrest Warrant

(Rule 3A:3)

State of Virginia
County (City) of _____

Before me, the undersigned, this day came _____.
(Name of Complainant)

who, after being duly sworn, made oath that:

(1) He has reason to believe that in the County (City) of _____ on or about _____ 19___,
(Date)

_____ committed the
(Name of Accused)

following offense(s): _____

_____

_____

(Continued on page 119)

(Continued from page 118)

(2) He bases his belief that such offense(s) has (have) been committed on the following facts: _____

_____

_____

*(3) (a) He has personal knowledge of the facts set forth in paragraph (2)

or

*(3) (b) He was advised of the facts set forth in paragraph (2) by an informer. The honesty of the informer's information may be judged by the following facts: _____

_____

_____

_____
(Signature of Complainant and Title, if any)

Sworn before me on _____19__.

_____
(Signature and Title)

*If subparagraph (3) (a) applies, strike out subparagraph (3) (b). If subparagraph (3) (b) applies, strike out subparagraph (3) (a) and write the facts in the space provided in subparagraph (3) (b). The informer need not be identified.

3. One of these officials, called a *magistrate*, investigated and decided that there was enough reason to allow the case to be brought to court. A warrant has been issued to the company's representatives. Fill in the warrant below.

Commonwealth of Virginia
County (City) of _____

To Wit:

Arrest Warrant
(Rule 3A:4)

TO ANY SHERIFF, POLICE OFFICER, OR OTHER AUTHORIZED OFFICER:

You are hereby commanded in the name of the Commonwealth forthwith to arrest _____

_____
(Name of accused, or a description by which the accused can be identified)

and to bring him (her) before the

_____
(Designation of Court)

to answer a charge that he (she) committed an offense in the County (City) of _____ on or about _____, 19___, namely (give a brief description of the offense) ___

_____

_____

_____

_____

On the basis of the sworn statement(s) of _____, the undersigned has found probable cause to believe the accused has committed the offense.

If a written complaint has been made, it is attached to the original of this warrant.

You are also commanded, in the name of the Commonwealth, to summon the following as witnesses:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

Given under my hand and seal, this _____ day of _____,19____.

_____
(Signature of Issuing Officer)

_____
(Title of Issuing Officer)

4. On advice from the plaintiff, his lawyers, or the prosecution lawyers, the magistrate has issued several summonses for witnesses to appear in court. Fill in the summons on the next page with all the facts you know. Use your imagination to supply the other information.

THE COMMONWEALTH OF VIRGINIA

To the _____ of the
(Official)
_____ of _____,
(Jurisdiction)

WE COMMAND YOU, That you summon
_____
_____
_____
to appear before the Judge of our____
Court of the _____ of _____
at the Courthouse thereof, on the
_____ day of _____, 19____,
at _____ o'clock _____M., to testify
and the truth to say in behalf of the
_____, in a
certain matter of controversy in our said Court, before the said Judge, depending and undetermined, between the Commonwealth of Virginia, Plaintiff, and _____, Defendant _____ And have then there this writ.

WITNESS, _____, Clerk of our said Court, at the Courthouse, this _____ day of _____, 19__, and in the _____ year of the Commonwealth.

_____, Clerk.

5. The magistrate has determined that this is a civil suit involving personal injury and has set the opening of the trial for tomorrow.

TASK 3

Purpose:

To make arrangements for the coming trial.

Steps:

1. Each student will determine his or her role in the trial by choosing a slip of paper with the character written on it. Many good actors ~~are~~ needed:

town sheriff (1) FBI agent (1)
magistrate (1) prosecutor (1)
judge (1) jury (10 or 12)
plaintiff (1) defendant (1)
defense lawyer (1) clerk of court (1)
arresting officer (1) bailiff (1)
witness for the plaintiff (1 or more)
witness for the accused (1 or more)
audience (any number)

2. The plaintiff, the prosecutor, the arresting officer and the witnesses for the plaintiff now must meet to plan their strategy for proving the case. Likewise, the defendant (who is the company representative), his or her lawyer, and the witnesses for the accused must prepare the defense. While these two groups are meeting, the rest of the class can be setting up the courtroom.

TASK 4 The Trial

Purpose:

To role-play a courtroom trial.

Steps:

1. The judge calls the courtroom to order and presents the charges against the defendant (the company representative).
2. The prosecution begins by calling the first witness (or the plaintiff) to the stand. Before anyone is allowed to testify, the clerk of court must direct the taking of the oath:

   "I swear to tell the truth, the whole truth, and nothing but the truth, so help me God."
3. After each prosecution witness is allowed to testify, the defense

lawyer must be allowed to cross-examine the witness. The lawyer is looking for flaws in the story or any distortion of the facts.

4. When the witnesses for the prosecution have been heard, the defense lawyer may present his or her case. As each defense witness testifies, the prosecution will be allowed to cross-examine.
5. After all testimony has been given, it is standard to give each side a chance to sum up their cases. Each lawyer speaks to the jury and presents the major points of the argument for or against the defendant. During this speech, the opposing side is not allowed to make objections or otherwise interrupt the presentation.
6. It is now the judge's responsibility to impress the jury with their duty. They must decide whether the evidence shows guilt *beyond a reasonable doubt* and then deliver a verdict back to him. If the verdict is guilty, then the jury will also recommend punishment as the law allows.
7. When the judge finishes instructing the jury, they will retire to a separate place to consider the evidence. All menbers must agree to the verdict or the trial will be declared a mistrial. The jury foreman reports the verdict to the courtroom.
8. The last part of this courtroom drama is the sentencing, if a guilty verdict is delivered. Taking the jury's recommendations into consideration, the judge will set a sentence or a fine. In this particular trial, the company would probably be fined.

Summary:

Many occupations in public service are similar to the ones found in private business. Detectives, security officers, lawyers, and office personnel may be hired by either. However, some of the occupations relating to the courts are purely government positions, such as judges and court clerks.

If these kinds of occupations and skills suit your interests, you can think about doing several things. Debate teams improve a person's ability to reason and to communicate convincing arguments. In high school, you may have the chance to take a course in "criminal justice." At the junior college level, there are opportunities to enroll in law enforcement programs. All along the way to a career, you can work to develop the general skills you will need. In the case of these kinds of public service jobs, you would pay attention to skills related to the social, investigative and enterprising work environments.

For more information about public service, go to the library and research the special area that interests you.

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25 – Public Service Occupations

Questions:

1. What are some occupations of the people involved in a trial? Describe the kind of skills they use.
2. Do several occupations use similar skills?
3. What roles do education and experience play in collecting the skills you need for certain jobs? Are there any occupations listed in Question 1 which require either more education or more experience?
4. Are there any occupations mentioned in Activity 25 which represent the work of people in private business, rather than public employment?
5. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Activity 26

Occupations in Marketing and Distribution

Occupations in marketing and distribution deal with the flow of goods and services from the producer to the consumer. Have you ever wondered how a product gets to your local store? Many different occupations are involved in bringing that item to you.

Research is often one of the first steps. A business's management may see or feel a demand for a product and then launch a program to put it on the market. From the raw materials stage, it goes to be manufactured. Then a distributor or wholesaler receives it and passes it along to the individual retail store.

Once the product has reached the area where it will be sold, promotion and advertising people plan how to present it to the public and salesmen are trained. All along the way from raw materials to packaged product, someone must store, handle and transport the item. It is this variety of occupations which provides employment for scores of people. It also makes available all those goods and services that our nations of consumers loves to buy.

(Picture)

Marketing and Distribution

- Marketing Management
- Marketing Research and Analysis
- Purchasing
- Sales Promotion and Training
- Selling
- Physical Distribution
- Related Business Services

Occupations in marketing and distribution include —

1. *Marketing Management:* organizing and directing workers and the flow of materials,
2. *Marketing Research and Analysis:* researching and reporting marketing data,
3. *Purchasing:* Locating and purchasing materials and merchandise,
4. *Sales Promotion:* encouraging sales through packaging, advertising, and customer services,
5. *Selling:* contacting customers, demonstrating products, and completing sales,
6. *Physical Distribution:* getting goods and services from the producer to the consumer, and
7. *Related Business Services:* taking care of the clerical duties which help merchandise and services get to the consumer, including the arrangement of financing and insurance coverage.

In Activity 23, you Manufactured a product on a production line, by having a small part to perform in the whole process. There are also many parts to play in marketing and distributing a product or service.

One important job is locating a market and convincing future customers to buy what you have to sell. What you have for sale, how you design it, package it and advertise it, all are serious "angles" to consider.

In Activity 26, you will create two kinds of advertisements: one, an advertising display for a magazine photograph and the other, a 60-second radio advertisement. Advertising in the mass media is one way for people in sales promotion to try and convince you to buy their product.

Vocabulary Words

launch mass media

TASK 1 Appealing Colors

Purpose:

To determine which of several fabric colors have widespread appeal or make a favorable impression on a group of consumers.

Steps:

1. Obtain six pieces or *swatches* of fabric for the color survey.
2. As a class, look at the six swatches for 10 seconds each. Choose the one that was most favorably remembered by the greatest number of people.
3. Take the five remaining pieces of fabric and display each of them again for three seconds. Vote again for the one best remembered.
4. Finally, take the four left and display them for three seconds. Vote once more and you will have three colors which you have found appealing to possible customers.

TASK 2 Display Advertisement

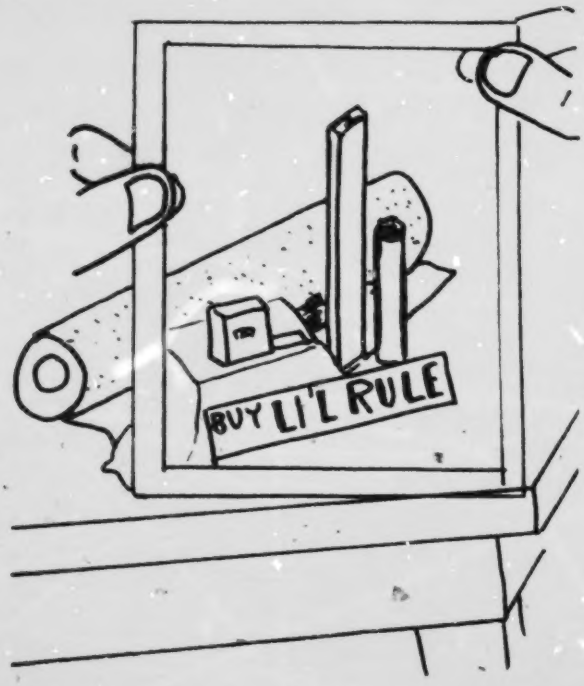
Purpose:

To make a display advertisement which could be photographed in color for magazine use.

Steps:

1. Choose a product to advertise. It could be the choker your class manufactured or any other item you wish to "sell."
2. Consider what setting or theme you want to use in order to create a certain impression of the product. Of course, you will consider the arrangement of items in your display. There are other ways to create a "mood," like color or patterns. Often advertisers will place symbols, objects, or people in the background of a product. If these things are already connected in some good or pleasant way in the mind of the consumer, then the product being pushed has a head start. One has to be careful, however, that a dishonest relationship is not suggested when there is no real connection between the two things.
3. When your grouping is complete, set up your white paper frame to make a border for the magazine photograph.
4. Another important part of display advertising is the short description

or the catchy phrase that usually goes with the product. Decide what you want to say and how you will make it part of the photograph. You might pen the information on paper like this:



Try to think of other inventive ways to display the product's name, such as cutout letters on some part of your fabric or lettering on balloons. Be sure to plan ahead, because this information will become part of the total effect.

5. If you have the use of a camera, photograph the display and see if you created the effect you were trying to create.

TASK 3 Radio Advertisement

Purpose:

To record a 60-second radio advertisement.

Steps:

1. Choose a service to advertise and list all the "selling points" which you consider important in describing this business. Think of yourself as a possible customer. If it is an emergency service you need, you would pay close attention to how far this business is from you. You might be interested in how long a business has been in operation. Price, hours of operation and so forth are other possible points to bring out.
2. With this list of reasons why a customer should do business with you, write a 60-second advertisement.
3. Practice reading the commercial and then record it.
4. Listen to the recording and see if it sounds like you intended for it to sound.

Questions:

1. What senses other than sight and sound could be used to evaluate the advertising of an item?
2. What are some occupations in the advertising field?
3. Persons who work in advertising must feel comfortable in what modes?
4. What in-school experiences, including vocational education courses, are appropriate preparation for advertising?
5. What clusters are represented in preparing a billboard advertisement on an Interstate highway?
6. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Summary:

In a country like ours where people consume large quantities of goods and services, the occupations of the Marketing and Distribution Cluster are very important. These occupations are concerned with organizing materials and people, researching markets for the products, purchasing and selling, as well as shipping goods from one location to another.

Distributive Education ("D.E.") is one way for high school students to try these exciting kinds of work while still in school. There are also several scout merit badges and 4-H projects which give you a good idea of how it would feel to work in some marketing and Distribution occupations.

Activity 27

Transportation Occupations

Occupations in transportation involve wheeled vehicles, watercraft, aircraft, and pipelines. More than just driving and navigation, this means repair and maintenance, passenger service, dispatching and scheduling, safety inspection, and many other occupations.

They certainly play a major part in our national exchange of money from one individual or business to another. Raw materials must get to manufacturing plants, travelers must get to new destinations, and petroleum must get to local distributors. Thousands of people in different occupations make these systems work. A transport system with special problems is the Alaskan pipeline, bringing crude oil from the frozen ground of Alaska. Imagine doing maintenance in those temperatures!

(Picture)

Transportation occupations are found in —

1. *Highway Transportation:* transporting people and object by use of wheeled vehicles;
2. *Rail Transportation:* transporting people and objects by use of rail vehicles;
3. *Airborne Transportation:* transporting passengers and freight by use of aircraft, managing and operating a terminal;
4. *Pipeline Transportation:* supervising, operating or repairing pipelines for transport of solids or liquids; and
5. *Water Transportation:* transporting on the sea and inland waterways.

Transportation
- Highway Transportation
- Rail Transportation
- Airborne Transportation
- Pipeline Transportation
- Water Transportation

In Activity 26, you were involved in promoting a product which you wanted to sell. Before the consumer ever hears or sees the promotion, there is another group of people employed to transport the goods to supply points. People in these occupations are responsible for getting groceries on the shelves and clothes on the rack. Not only production and packaging of the goods, but also distribution must take place before the consumer has the merchandise available for purchase.

In Activity 27, you will explore one of the ways that goods are distributed — by truck. A huge network of truck routes crisscrosses our country and connects the consumer with merchandise available for purchase. The truckers who are responsible for these goods travel at all hours of the day and night. Their special lifestyle is the subject of many ballads and popular songs.

One interesting thing about truck drivers that has attracted attention is the slang they use to talk over their citizens band radios. You will translate a sample conversation later in this activity.

Vocabulary Words

dispatch — destination

terminal — perishable

humidity

TASK 1 Breaker, Breaker

Purpose:

To solve a transportation problem involving the distribution of certain perishable goods.

Steps:

1. Two truck drivers are headed toward each other from opposite directions. Truck #1 is westbound from Richmond on its way to West Virginia. Truck #2 is eastbound from Roanoke to Richmond. They are talking on their CB radios about several things — the weather, road conditions, and the location of police radar.

   Truck #1 has a special problem. Part of his load is merchandise for a lawn and garden sale in Roanoke. The temperature and humidity inside the trailer should be kept at a certain level because of the plants on board. Travel time must be fewer than eight hours or the shipment will be damaged.
2. Listen to the conversation between the two truckers and identify which one is in Truck #1 and which one is in Truck #2. You may need the chart below in order to understand them.

CB Slang	Translation
Advertising	Bear with light on
Back-um-down	Slow down to 55
Bandaid buggy	Ambulance
Bear	Highway patrolman
Bear Report	Where are they?
Beat the bushes	Find the bears.
Big ten-four	Big yes
Blow the doors off	Pass
Break, breaker	Let me on the channel.
Convoy	Organized bear hunt
County Mountie	Local bear
Double nickels	55 (the speed limit)
Draggin' wagon	A wrecker
Ears	CB radio or antenna
Eighteen wheeler	All tractor-trailer rigs or "semi's"
Four wheeler	Automobiles
Good buddy	Any other C.B. operator
Go-go girls	Load of pigs headed for market
Grass	Median strip
Hammer down	Moving fast
Negatory	No
Picture box	Police radar
Plain wrapper	Unmarked patrol car
Seventy-threes	Best of luck
Smokey with ears	Bear with a C.B.
Swindle sheets	Trucker's log books
Taking pictures	Radar unit
Ten-four	Yes, o.k.
Ten-twenty	Location
Ten-thirty-six	What time is it?
Threes on you	Best regards
Threes and eights	Heavy regards
XYL	Wife (ex-young lady)
You gotta copy on me?	Do you hear me?

3. As the drivers talk about different locations, find them on your map.
4. When you have located the routes on which they are driving, see what new road Truck #1 could take to get to Roanoke. Remember that he has a shipment of perishable goods and needs to take the quickest route. *Eastbound Sunshine* has a suggestion on which route he could take.
5. Figure the total number of miles that Truck #1 will drive from Richmond to Roanoke on the route you have chosen. The scale shows that 1/2 inch on the map represents about 12 miles.
6. A truck can cover about 50 miles in one hour at a speed of 55 miles per hour. Figure the hour that Truck #1 will arrive in Roanoke if it left Richmond at 6:00 a.m.
7. Does the driver make it in eight hours?

TASK 2 Daily Log Book

Purpose:

To fill out the Driver's Daily Log Book (the trucker's "swindle sheets").

Steps:

1. Fill in the month, day, and year.
2. Fill in total mileage for Truck #1.
3. Fill in total miles driven today, which is the same as total mileage.
4. Sign your name in the driver's signature blank.
5. Fill in "Trucking Transport" for the name of carrier.
6. Leave name of the co-driver blank.
7. You were off duty until one hour before Truck #1 left and then from one hour after it arrived in Roanoke to midnight. Mark Row 1 with a line to show this. Fill in the total number of hours off duty.
8. Leave Row 2 blank.
9. Fill in Row 3 by drawing a line to show the exact time spent in driving. Note the total hours in the blank at the right.
10. Show the time that you were on duty but not driving in Row 4. Note the number of hours in the total column.
11. Add the number of hours in the total column. They should equal 24.
12. In the remarks row, note any unusual events like wrecks, change of route, and so forth. Note the approximate time the event took place.
13. Fill in the blanks at the bottom of the form.
14. Give the white copy to your teacher. The yellow copy is yours.

Questions:

1. A truck driver works in which mode(s)?
2. In what way are truck drivers important to the people who work in other clusters?
3. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

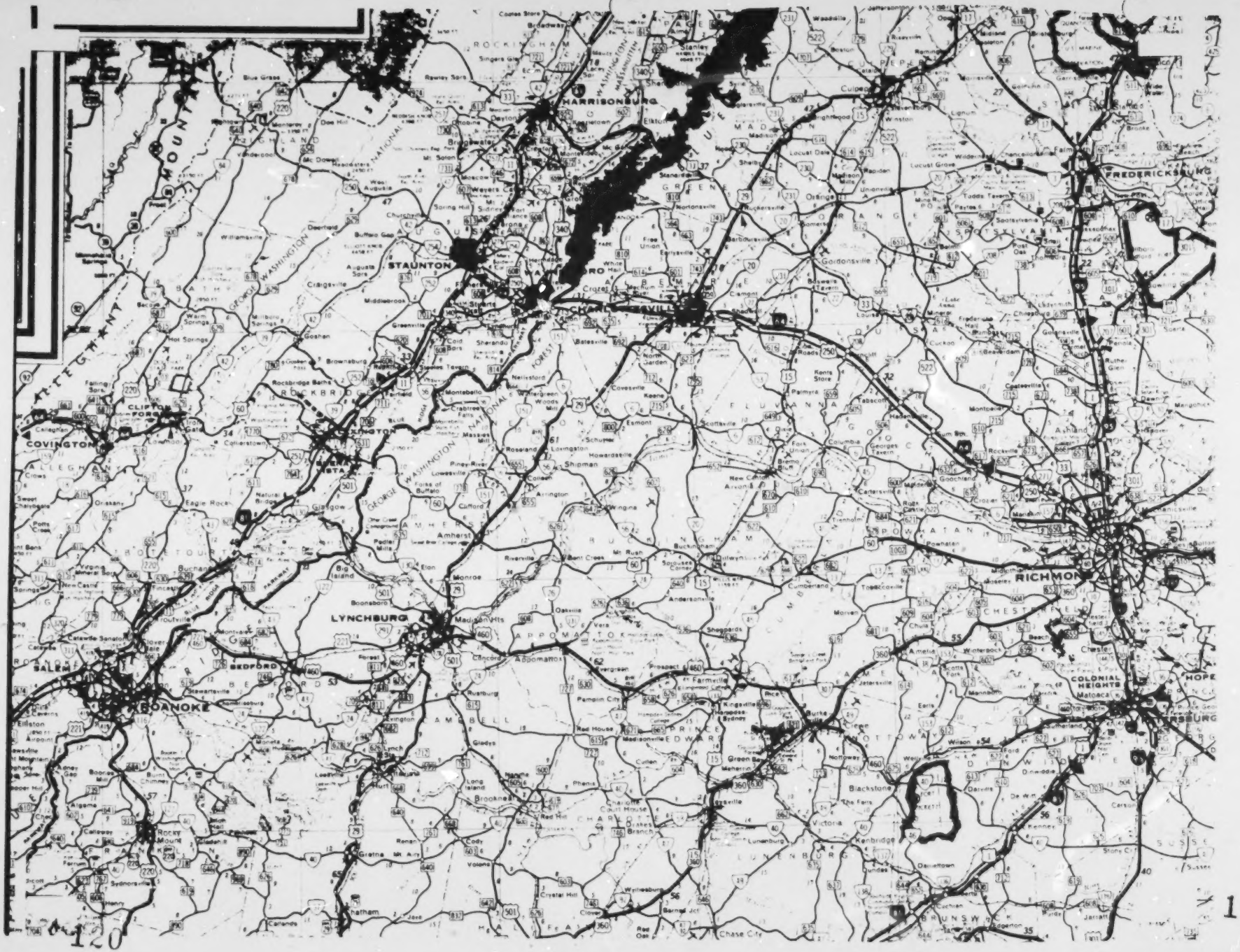
(Illustration)

Summary:

Our country depends on the people who make goods and services available to the consumer. Workers of all kinds, from research scientists and engineers to skilled laborers and tradesmen, are included in this cluster.

Mass transportation systems have attracted much attention in recent years. Many people hope that new developments in mass transit will help our country's pollution problems. With many people sharing rides in mass transportation systems, there will be fewer vehicles on the road to throw out pollutants. Perhaps *you* will be the engineer who makes this dream a reality.

In school, you may find that there are several courses which relate to occupations in transportation. It depends on the area in which you are interested. Social studies and industrial arts courses can help you focus on the background of transit systems. Science courses can explore the outlook of research in the coming years. Distributive education, auto mechanics and industrial education courses all can provide instruction in very useful skills. They might even keep your family's personal transportation on the road.


HARRISONBURG
STAUNTON
FREDERICKSBURG
COVINGTON
LYNCHBURG
ROANOKE
RICHMOND
COLONIAL HEIGHTS
BEDFORD
SALEM
Amherst
Monroe
Madison Hts
Appomattox
Farmville
Blackstone
Victoria
Kenbridge
Chase City
Clifton Forge
Buena Vista
Waynesboro
Lexington
Natural Bridge
Rocky Mount
Martinsville
Danville
Hopewell
Petersburg
Colonial Heights
Fredericksburg
Ashland
Louisa
Gordonsville
Orange
Culpeper
Warrenton
Manassas
Front Royal
Winchester
Strasburg
Woodstock
Luray
Shenandoah
Page
Rockingham
Augusta
Bath
Alleghany
Botetourt
Roanoke
Franklin
Pittsylvania
Halifax
Mecklenburg
Brunswick
Dinwiddie
Chesterfield
Henrico
Hanover
Caroline
Spotsylvania
Stafford
Prince William
Fauquier
Loudoun
Clarke
Frederick
Shenandoah
Rockbridge
Nelson
Amherst
Appomattox
Buckingham
Cumberland
Powhatan
Goochland
Fluvanna
Albemarle
Greene
Madison
Culpeper
Rappahannock
Warren
Shenandoah
Page
Rockingham
Augusta
Bath
Alleghany
Monterey
Highland
Blue Ridge Parkway
George Washington National Forest
Jefferson National Forest
Shenandoah National Park
Skyline Drive
Appalachian Trail
James River
Rivanna River
Rapidan River
Rappahannock River
Shenandoah River
Potomac River
Roanoke River
Staunton River
Dan River
Smith River
Blue Ridge Mountains
Allegheny Mountains
Massanutten Mountain
Peaks of Otter
Natural Bridge
Lake Anna
Lake Gaston
Kerr Reservoir
Smith Mountain Lake
Leesville Lake
Claytor Lake
Carvins Cove
Spring Hill
Mt. Solon
Mt. Crawford
Dayton
Bridgewater
Broadway
Timberville
Elkton
Grottoes
Stanley
Luray
Shenandoah
Page
Rockingham
Augusta
Bath
Alleghany
Monterey
Highland
Blue Ridge Parkway
George Washington National Forest
Jefferson National Forest
Shenandoah National Park
Skyline Drive
Appalachian Trail
James River
Rivanna River
Rapidan River
Rappahannock River
Shenandoah River
Potomac River
Roanoke River
Staunton River
Dan River
Smith River
Blue Ridge Mountains
Allegheny Mountains
Massanutten Mountain
Peaks of Otter
Natural Bridge
Lake Anna
Lake Gaston
Kerr Reservoir
Smith Mountain Lake
Leesville Lake
Claytor Lake
Carvins Cove
Spring Hill
Mt. Solon
Mt. Crawford
Dayton
Bridgewater
Broadway
Timberville
Elkton
Grottoes
Stanley

120

121

Activity 28

Business and Office Occupations

Whether you drive a truck, work as a secretary or teach school, you depend on the workers of the Business and Office Cluster. One very basic way they affect you is through your paycheck.

The organization of records is an important part of any business. Many people are employed for clerking duties, accounting, key punch operating, stenography and so forth. Also within this cluster are found those occupations dealing with management and personnel. Insurance examiners, real estate salespersons, and bank employees work in this cluster, too.

Occupations are found in —

1. *Accounting:* keeping and examining records,
2. *Computers:* dealing with information by use of electronic methods,
3. *Secretarial Science:* keeping records, taking dictation, composing and editing,

(Picture)

Business and Office
- Computer
- Management
- Office (Clerical)
- Accounting
- Secretarial Science
- Finance - Insurance - Real Estate
- Personnel

4. *Management:* planning and directing the business and its employees,
5. *Personnel:* dealing with matters involving a business's employees,
6. *Finance — Insurance — Real Estate:* dealing with money, counseling others on insurance against loss, selling land and helping with those kinds of money exchanges, and
7. *Office (Clerical):* dealing with skills other than those already mentioned, such as typing, operating business machines, filing and so forth.

In Activity 28, you will do two things that will help you better understand business and office occupations. In one case, you will accept the duties of payroll clerk and write yourself a check. After you receive money, you will become a bank customer and deposit some of your money in a checking account or a savings account. Working in these kind of ways, as a payroll clerk or a bank employee, requires some skills in being careful and exact.

Vocabulary Words

personnel	deduction
accurate	deposit
withdraw	interest

TASK 1 Gross Wage

Purpose:

To figure total earnings for one week.

Steps:

1. In Activity 26, you filled out a trucker's daily log. Let's suppose for a moment that driving a truck is a part-time job for you. You worked 20 hours that week and now you want to figure your wages.
2. Your wage is $16 per hour, so multiply the number of hours times 16. This will give you the *gross wage* you earned in one week. A gross wage is the amount earned before taxes are subtracted.

TASK 2 Deductions

Purpose:

To figure the amount of money which will be subtracted from your paycheck to cover state income tax, federal income tax and social security taxes.

Steps:

1. The Internal Revenue Service, which is part of the federal government, provides booklets to help with these mathematics problems. There are different sections which apply to married and single people and the number of times paid in a certain pay period. You will figure your federal income tax as a weekly-paid single person with one *withholding allowance*. This allowance lets a person subtract certain amounts of money from the income which government wants to tax.
2. Locate page 21 of the government's 1975 Tax Guide on page 138 of your activity book. Find your federal income tax by going down the column showing wages. Stop at the number which shows your earnings. Go across to the column showing tax for one withholding allowance. Record this amount on a separate sheet of paper.
3. To figure the amount of money subtracted from your paycheck for social security taxes, there is a different table to use. Fine page 47 of the Tax Guide reprinted on page 139 of your activity book. You will again find your taxes by going down the column marked wages and over to the tax column. Record this amount on the separate sheet of paper also.
4. To figure the amount of state income tax, you must multiply your gross pay times a certain tax rate. This rate varies from state to state, so a representative figure of 5 3/4% will be used. In order to multiply a percentage number, it must first be changed to a decimal number — in this case, .575. Multiply .575 times your earnings and record the amount of state income tax on your page.

TASK 3 Paycheck

Purpose:

To figure your take-home pay after taxes and to fill out a paycheck.

Steps:

1. Add together your federal income tax, social security tax, and state income tax. This is the total amount of deductions to be subtracted from your paycheck.
2. When you subtract these deductions from your gross earnings, you have your *net wage*. This is the amount you will take home on your paycheck.
3. Notice that a dotted line divides the check below into two parts. The left-hand portion is the record which is left after the check is torn out of the book. Fill in this information for the company's files:
   a. date of check,
   b. check number, which should match the number on the check itself,
   c. your own name, since the check will be made out to you,
   d. *for* wages,
   e. your net wage,
   f. the balance, which is the amount of money left in the company's bank account after paying these wages. Figure this as if there were three thousand dollars in the account before your check was written.
4. It is important to be both neat and accurate when filling out a payroll check. Most checks have a special surface which makes an erase mark stick out "like a sore thumb." This was done to prevent checks from being changed, once written. Double-check your information before filling in these blanks:
   g. date of check,
   h. your name,
   i. net pay, written like this — "$320.85,"
   j. net pay, written like this — "three hundred and twenty dollars and 85 cents" with a single line filling the rest of the space over to the word DOLLARS,
   k. *for* wages,
   l. the company president's signature.

a) Date _____

b) Check No. ____

c) Issued to ____

_____

d) For _____

e) Amount $____

f) Balance $____

Check No. 815

(g) _____ 19___ 68-618 / 514

(h)
Pay to the
Order of _____ *(i)* $_____

(j) _____ DOLLARS

(k)
For _____ *(l)* _____

TASK 4 Bank Accounts

Purpose:

To decide what to do with your paycheck.

Steps:

1. A person may simply cash his or her paycheck and use the money. However, some people consider it safer or

easier to bank that money.

2. A *checking account* is a service which allows people to keep their money in a safe place and take out small amounts as they need it. When a check has been cashed, it becomes legal *proof of payment*, so a checking account is also a good way to keep a record of what you spend. Anyone may open a bank account, but some banks require customers under 18 to have their applications signed by an adult.

3. The amount of money you put in a checking account might depend on many things. You may by setting aside a small amount of money for savings every week. You may need to keep part of your paycheck for immediate spending. You could pay your bills with cash or by check. Decide what your own needs might be and deposit some amount of your paycheck in the bank. Every time you leave money there you must fill out a checking deposit slip like the one below:
   a. date of deposit,
   b. currency — whole dollars deposited,
   c. coins — change deposited,
   d. total dollars and change deposited.
   The bank will stamp and return the deposit slip for your records.

CHECKING DEPOSIT SLIP

(a) DATE _____ 19____

		Dollars	*Cents*
(b)	Currency		
(c)	Coin		
	Total from other side		
(d)	TOTAL DEPOSIT		

3. A *savings account* is money which the customer allows the bank to use in exchange for a payment of interest. This means your money is earning money, when you save. In this kind of savings account, you can withdraw or deposit at any time.

   The customer can also purchase *investment certificates* for certain amounts, like $100 or $1000. This kind of savings earns more money, but there are other demands such as how long they can use it before you are allowed to withdraw.

4. Take the amount of money which you kept out of your paycheck for savings and deposit it in the bank. There is a special form for you to fill out:
   a. date of deposit,
   b. the bank's number which identifies your account (make up a number),
   c. name,
   d. mailing address,
   e. currency — whole dollars deposited,
   f. coins — change deposited,
   g. sign each check and record its value,
   h. total of all currency, coins, and checks deposited.

SAVINGS DEPOSIT

(a) Date _____ 19___ _____
(b) Account number

(c) Name _____

(d) Address _____

			Dollars	Cents
(e)	CURRENCY			
(f)	COINS			
(g)	CHECKS List separately	Bank No.		
(h)	TOTAL			

Summary:

Those who work in the Business and Office Cluster deal with processing information: recording, filming, composing, and checking data. In a society where large amounts of information must be handled, these persons are very important.

School subjects such as mathematics, general business, economics, and others serve as a foundation for high school vocational courses and junior college business programs.

Questions:

1. List three occupations found in a bank and tell which mode(s) they represent.
2. What are some of the characteristics which would be useful in performing those jobs you listed in Question 1?
3. Which banking occupation would you enjoy most, if you could have any job at this time? Why?
4. What other jobs require the same kinds of skills as a payroll clerk?
5. What useful things did you learn in this activity?
6. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

SINGLE Persons — **WEEKLY** Payroll Period

And the wages are—		And the number of withholding allowances claimed is—										
At least	But less than	0	1	2	3	4	5	6	7	8	9	10 or more
		The amount of income tax to be withheld shall be—										
$120	$125	$18.00	$14.90	$12.00	$9.20	$6.40	$4.10	$1.80	$0	$0	$0	$0
125	130	19.20	15.90	13.00	10.20	7.30	4.90	2.60	.20	0	0	0
130	135	20.30	17.00	14.00	11.20	8.30	5.70	3.40	1.00	0	0	0
135	140	21.50	18.20	15.00	12.20	9.30	6.50	4.20	1.80	0	0	0
140	145	22.60	19.30	16.00	13.20	10.30	7.40	5.00	2.60	.30	0	0
145	150	23.80	20.50	17.10	14.20	11.30	8.40	5.80	3.40	1.10	0	0
150	160	25.30	22.20	18.90	15.70	12.80	9.90	7.00	4.60	2.30	0	0
160	170	27.80	24.50	21.20	17.80	14.80	11.90	9.00	6.20	3.90	1.60	0
170	180	30.10	26.80	23.50	20.10	16.80	13.90	11.00	8.10	5.50	3.20	.90
180	190	32.40	29.10	25.80	22.40	19.10	15.90	13.00	10.10	7.20	4.80	2.50
190	200	34.50	31.40	28.10	24.70	21.40	18.10	15.00	12.10	9.20	6.40	4.10
200	210	36.60	33.50	30.40	27.00	23.70	20.40	17.10	14.10	11.20	8.30	5.70
210	220	38.70	35.60	32.60	29.30	26.00	22.70	19.40	16.10	13.20	10.30	7.50
220	230	40.80	37.70	34.70	31.60	28.30	25.00	21.70	18.40	15.20	12.30	9.50
230	240	42.90	39.80	36.80	33.80	30.60	27.30	24.00	20.70	17.40	14.30	11.50
240	250	45.20	41.90	38.90	35.90	32.80	29.60	26.30	23.00	19.70	16.30	13.50
250	260	47.80	44.00	41.00	38.00	34.90	31.90	28.60	25.30	22.00	18.60	15.50
260	270	50.40	46.60	43.10	40.10	37.00	34.00	30.90	27.60	24.30	20.90	17.60
270	280	53.00	49.20	45.50	42.20	39.10	36.10	33.10	29.90	26.60	23.20	19.90
280	290	55.80	51.80	48.10	44.30	41.20	38.20	35.20	32.10	28.90	25.50	22.20
290	300	58.80	54.50	50.70	46.90	43.30	40.30	37.30	34.20	31.20	27.80	24.50
300	310	61.80	57.50	53.30	49.50	45.80	42.40	39.40	36.30	33.30	30.10	26.80
310	320	64.80	60.50	56.20	52.10	48.40	44.60	41.50	38.40	35.40	32.40	29.10
320	330	67.80	63.50	59.20	54.80	51.00	47.20	43.60	40.50	37.50	34.50	31.40
330	340	70.80	66.50	62.20	57.80	53.60	49.80	46.10	42.60	39.60	36.60	33.60
340	350	73.80	69.50	65.20	60.80	56.50	52.40	48.70	44.90	41.70	38.70	35.70
350	360	77.40	72.50	68.20	63.80	59.50	55.20	51.30	47.50	43.80	40.80	37.80
360	370	81.00	75.80	71.20	66.80	62.50	58.20	53.90	50.10	46.40	42.90	39.90
370	380	84.60	79.40	74.20	69.80	65.50	61.20	56.90	52.70	49.00	45.20	42.00
380	390	88.20	83.00	77.80	72.80	68.50	64.20	59.90	55.50	51.60	47.80	44.10
390	400	91.80	86.60	81.40	76.20	71.50	67.20	62.90	58.50	54.20	50.40	46.70
400	410	95.40	90.20	85.00	79.80	74.60	70.20	65.90	61.50	57.20	53.00	49.30
410	420	99.00	93.80	88.60	83.40	78.20	73.20	68.90	64.50	60.20	55.90	51.90
420	430	102.60	97.40	92.20	87.00	81.80	76.60	71.90	67.50	63.20	58.90	54.60
430	440	106.20	101.00	95.80	90.60	85.40	80.20	75.00	70.50	66.20	61.90	57.60
440	450	109.80	104.60	99.40	94.20	89.00	83.80	78.60	73.50	69.20	64.90	60.60
450	460	113.40	108.20	103.00	97.80	92.60	87.40	82.20	77.00	72.20	67.90	63.60
460	470	117.00	111.80	106.60	101.40	96.20	91.00	85.80	80.60	75.40	70.90	66.60
470	480	120.60	115.40	110.20	105.00	99.80	94.60	89.40	84.20	79.00	73.90	69.60
480	490	124.20	119.00	113.80	108.60	103.40	98.20	93.00	87.80	82.60	77.40	72.60
490	500	127.80	122.60	117.40	112.20	107.00	101.80	96.60	91.40	86.20	81.00	75.80
500	510	131.40	126.20	121.00	115.80	110.60	105.40	100.20	95.00	89.80	84.60	79.40
510	520	135.00	129.80	124.60	119.40	114.20	109.00	103.80	98.60	93.40	88.20	83.00
520	530	138.60	133.40	128.20	123.00	117.80	112.60	107.40	102.20	97.00	91.80	86.60
530	540	142.20	137.00	131.80	126.60	121.40	116.20	111.00	105.80	100.60	95.40	90.20
540	550	145.80	140.60	135.40	130.20	125.00	119.80	114.60	109.40	104.20	99.00	93.80
550	560	149.40	144.20	139.00	133.80	128.60	123.40	118.20	113.00	107.80	102.60	97.40
560	570	153.00	147.80	142.60	137.40	132.20	127.00	121.80	116.60	111.40	106.20	101.00
570	580	156.60	151.40	146.20	141.00	135.80	130.60	125.40	120.20	115.00	109.80	104.60
580	590	160.20	155.00	149.80	144.60	139.40	134.20	129.00	123.80	118.60	113.40	108.20
590	600	163.80	158.60	153.40	148.20	143.00	137.80	132.60	127.40	122.20	117.00	111.80
600	610	167.40	162.20	157.00	151.80	146.60	141.40	136.20	131.00	125.80	120.60	115.40
610	620	171.00	165.80	160.60	155.40	150.20	145.00	139.80	134.60	129.40	124.20	119.00
620	630	174.60	169.40	164.20	159.00	153.80	148.60	143.40	138.20	133.00	127.80	122.60
630	640	178.20	173.00	167.80	162.60	157.40	152.20	147.00	141.80	136.60	131.40	126.20
		36 percent of the excess over $640 plus—										
$640 and over		180.00	174.80	169.60	164.40	159.20	154.00	148.80	143.60	138.40	133.20	128.00

Social Security Employee Tax Table—Continued

5.85 percent employee tax deductions

Wages		Tax to be withheld	Wages		Tax to be withheld	Wages		Tax to be withheld	Wages		Tax to be withheld
At least	But less than		At least	But less than		At least	But less than		At least	But less than	
$311.03	$311.20	$18.20	$322.14	$322.31	$18.85	$333.25	$333.42	$19.50	$344.36	$344.53	$20.15
311.20	311.37	18.21	322.31	322.48	18.86	333.42	333.59	19.51	344.53	344.71	20.16
311.37	311.54	18.22	322.48	322.65	18.87	333.59	333.77	19.52	344.71	344.88	20.17
311.54	311.71	18.23	322.65	322.83	18.88	333.77	333.94	19.53	344.88	345.05	20.18
311.71	311.89	18.24	322.83	323.00	18.89	333.94	334.11	19.54	345.05	345.22	20.19
311.89	312.06	18.25	323.00	323.17	18.90	334.11	334.28	19.55	345.22	345.39	20.20
312.06	312.23	18.26	323.17	323.34	18.91	334.28	334.45	19.56	345.39	345.56	20.21
312.23	312.40	18.27	323.34	323.51	18.92	334.45	334.62	19.57	345.56	345.73	20.22
312.40	312.57	18.28	323.51	323.68	18.93	334.62	334.79	19.58	345.73	345.90	20.23
312.57	312.74	18.29	323.68	323.85	18.94	334.79	334.96	19.59	345.90	346.07	20.24
312.74	312.91	18.30	323.85	324.02	18.95	334.96	335.13	19.60	346.07	346.24	20.25
312.91	313.08	18.31	324.02	324.19	18.96	335.13	335.30	19.61	346.24	346.42	20.26
313.08	313.25	18.32	324.19	324.36	18.97	335.30	335.48	19.62	346.42	346.59	20.27
313.25	313.42	18.33	324.36	324.53	18.98	335.48	335.65	19.63	346.59	346.76	20.28
313.42	313.59	18.34	324.53	324.71	18.99	335.65	335.82	19.64	346.76	346.93	20.29
313.59	313.77	18.35	324.71	324.88	19.00	335.82	335.99	19.65	346.93	347.10	20.30
313.77	313.94	18.36	324.88	325.05	19.01	335.99	336.16	19.66	347.10	347.27	20.31
313.94	314.11	18.37	325.05	325.22	19.02	336.16	336.33	19.67	347.27	347.44	20.32
314.11	314.28	18.38	325.22	325.39	19.03	336.33	336.50	19.68	347.44	347.61	20.33
314.28	314.45	18.39	325.39	325.56	19.04	336.50	336.67	19.69	347.61	347.78	20.34
314.45	314.62	18.40	325.56	325.73	19.05	336.67	336.84	19.70	347.78	347.95	20.35
314.62	314.79	18.41	325.73	325.90	19.06	336.84	337.01	19.71	347.95	348.12	20.36
314.79	314.96	18.42	325.90	326.07	19.07	337.01	337.18	19.72	348.12	348.30	20.37
314.96	315.13	18.43	326.07	326.24	19.08	337.18	337.36	19.73	348.30	348.47	20.38
315.13	315.30	18.44	326.24	326.42	19.09	337.36	337.53	19.74	348.47	348.64	20.39
315.30	315.48	18.45	326.42	326.59	19.10	337.53	337.70	19.75	348.64	348.81	20.40
315.48	315.65	18.46	326.59	326.76	19.11	337.70	337.87	19.76	348.81	348.98	20.41
315.65	315.82	18.47	326.76	326.93	19.12	337.87	338.04	19.77	348.98	349.15	20.42
315.82	315.99	18.48	326.93	327.10	19.13	338.04	338.21	19.78	349.15	349.32	20.43
315.99	316.16	18.49	327.10	327.27	19.14	338.21	338.38	19.79	349.32	349.49	20.44
316.16	316.33	18.50	327.27	327.44	19.15	338.38	338.55	19.80	349.49	349.66	20.45
316.33	316.50	18.51	327.44	327.61	19.16	338.55	338.72	19.81	349.66	349.83	20.46
316.50	316.67	18.52	327.61	327.78	19.17	338.72	338.89	19.82	349.83	350.00	20.47
316.67	316.84	18.53	327.78	327.95	19.18	338.89	339.06	19.83	350.00	350.18	20.48
316.84	317.01	18.54	327.95	328.12	19.19	339.06	339.24	19.84	350.18	350.35	20.49
317.01	317.18	18.55	328.12	328.30	19.20	339.24	339.41	19.85	350.35	350.52	20.50
317.18	317.36	18.56	328.30	328.47	19.21	339.41	339.58	19.86	350.52	350.69	20.51
317.36	317.53	18.57	328.47	328.64	19.22	339.58	339.75	19.87	350.69	350.86	20.52
317.53	317.70	18.58	328.64	328.81	19.23	339.75	339.92	19.88	350.86	351.03	20.53
317.70	317.87	18.59	328.81	328.98	19.24	339.92	340.09	19.89	351.03	351.20	20.54
317.87	318.04	18.60	328.98	329.15	19.25	340.09	340.26	19.90	351.20	351.37	20.55
318.04	318.21	18.61	329.15	329.32	19.26	340.26	340.43	19.91	351.37	351.54	20.56
318.21	318.38	18.62	329.32	329.49	19.27	340.43	340.60	19.92	351.54	351.71	20.57
318.38	318.55	18.63	329.49	329.66	19.28	340.60	340.77	19.93	351.71	351.89	20.58
318.55	318.72	18.64	329.66	329.83	19.29	340.77	340.95	19.94	351.89	352.06	20.59
318.72	318.89	18.65	329.83	330.00	19.30	340.95	341.12	19.95	352.06	352.23	20.60
318.89	319.06	18.66	330.00	330.18	19.31	341.12	341.29	19.96	352.23	352.40	20.61
319.06	319.24	18.67	330.18	330.35	19.32	341.29	341.46	19.97	352.40	352.57	20.62
319.24	319.41	18.68	330.35	330.52	19.33	341.46	341.63	19.98	352.57	352.74	20.63
319.41	319.58	18.69	330.52	330.69	19.34	341.63	341.80	19.99	352.74	352.91	20.64
319.58	319.75	18.70	330.69	330.86	19.35	341.80	341.97	20.00	352.91	353.08	20.65
319.75	319.92	18.71	330.86	331.03	19.36	341.97	342.14	20.01	353.08	353.25	20.66
319.92	320.09	18.72	331.03	331.20	19.37	342.14	342.31	20.02	353.25	353.42	20.67
320.09	320.26	18.73	331.20	331.37	19.38	342.31	342.48	20.03	353.42	353.59	20.68
320.26	320.43	18.74	331.37	331.54	19.39	342.48	342.65	20.04	353.59	353.77	20.69
320.43	320.60	18.75	331.54	331.71	19.40	342.65	342.83	20.05	353.77	353.94	20.70
320.60	320.77	18.76	331.71	331.89	19.41	342.83	343.00	20.06	353.94	354.11	20.71
320.77	320.95	18.77	331.89	332.06	19.42	343.00	343.17	20.07	354.11	354.28	20.72
320.95	321.12	18.78	332.06	332.23	19.43	343.17	343.34	20.08	354.28	354.45	20.73
321.12	321.29	18.79	332.23	332.40	19.44	343.34	343.51	20.09	354.45	354.62	20.74
321.29	321.46	18.80	332.40	332.57	19.45	343.51	343.68	20.10	354.62	354.79	20.75
321.46	321.63	18.81	332.57	332.74	19.46	343.68	343.85	20.11	354.79	354.96	20.76
321.63	321.80	18.82	332.74	332.91	19.47	343.85	344.02	20.12	354.96	355.13	20.77
321.80	321.97	18.83	332.91	333.08	19.48	344.02	344.19	20.13	355.13	355.30	20.78
321.97	322.14	18.84	333.08	333.25	19.49	344.19	344.36	20.14	355.30	355.48	20.79

Activity 23

Occupations in Hospitality and Recreation

Every community has people who will want to balance periods of work and those kinds of activities with leisure time and recreational activities. However, a hobby for one person might be another person's work. Even fishing can be hard labor.

Some communities can take advantage of natural resources that offer special recreation fun, like swimming, skiing, and spelunking. Other communities must provide recreation by sponsoring athletic events, craft classes, concerts, and so forth. Some communities are the tourist attractions to which other people want to travel.

Why would a community want to attract tourists? There are many occupations which involve the comfort of people while they are traveling, so tourists provide jobs for people living in the community. These travelers also spend money for the goods they need while traveling and money for recreation itself. Communities with tourist attractions can help their own citizens' money concerns and perhaps serve their leisure interests, too.

(Picture)

Recreation and Hospitality
- Travel Agencies
- Transportation
- Commercial and Non-Commercial Travel Bureaus
- Public, Industrial, and Private Recreation (Commercial and Non-Commercial)
- Recreation Concerned with Natural Resources

Occupations in the Hospitality and Recreation Cluster are found in —

1. *Commercial and Non-Commercial Travel Bureaus:* dealing with public relations, advertising and travel information,
2. *Travel Agencies:* giving travel information, arranging tours and lodging,
3. *Transportation:* taking care of the comforts of passengers while they are traveling,
4. *Public, Industrial and Private Recreation:* dealing with athletics, recreation and entertainment,
5. *Recreation concerned with Natural Resources:* assisting others in enjoying such natural recreational pleasures as the ocean or wildlife.

Jobs in this cluster may be located in offices, aboard transportation vehicles, within places of entertainment and in the out-of-doors. Since our society has developed machines and assembly line production to do much of our work for us, we can use leisure time to follow our interests.

Recreation and Hospitality is a cluster that promises to offer more occupations as long as the nation's money matters

are secure. There are many people willing to spend money on travel as an education, as well as recreation.

In Activity 29, you will join with other concerned citizens of the community to talk about possible tourist attractions.

Vocabulary Words

leisure

spelunking

TASK 1 Citizen's Committee on Recreation

Purpose:

To call together the Town Council again and appoint a citizen's Committee on Recreation and Hospitality.

Steps:

1. The mayor will call the meeting to order and welcome the interested citizens who are at today's meeting.
2. She or he will divide the citizens into groups of five or six people and assign council members to attend each committee's meetings.
3. The purpose of these meetings is to arrange for recreational facilities which will be attractive to tourists.
4. Let the council meeting break up into committee meetings. Each committee will choose a different possibility from the following list:
   a. a family resort,
   b. a recreation program for youth,
   c. sports competitions for all ages,
   d. a town park,
   e. a nature center,
   f. travel tours to nearby points of interest, and
   g. a schedule of summer music activities.
5. Each committee should write a description of the recreation program which they believe will be attractive to tourists and tell why.
6. Let the committees return to the Town Council meeting and report. The Council may vote to accept or reject each program as part of the overall plan of community improvement.

TASK 2 Stepping Into the World of Work

Purpose:

To observe work modes a l occupational clusters in real work settings.

Steps:

1. Your teacher may plan a field trip for you to observe the world of work and the Hospitality and Recreation Cluster, in particular. Likely places to go include your community recreation facilities, museums, zoos, historical landmarks, railroad or airplane terminals, travel agencies, and sports information offices.
2. Besides the understandable fun of being in a recreation or entertainment atmosphere, there are several things to keep in mind:
   a. Each person with which you have contact works in one or more work modes.
   b. Each person's occupation relates to one or more of the clusters.
3. You may plan to interview some people whose occupations really interest you.
4. Single out one or more people you find to be working in a Hospitality and Recreation occupation and descirbe

the six work modes. Ask them to name the modes in which they work. This survey could be enlarged to fit a bulletin board.

Summary:

The number of persons employed in the Hospitality and Recreation Cluster has grown rapidly. Those whose concern it is to help us enjoy our leisure time, work in this cluster. Most deal with the public, so that any activity, whether in or out of school, where you can meet and speak with people would be a helpful experience.

Questions:

1. List three occupations in hospitality and recreation. Name the work mode(s) they represent.
   a.
   b.
   c.
2. What kind of things would attract a person to choose occupations such as these?
3. What are several disadvantages of working in Hospitality and Recreation occupations?
4. Discuss the future of hospitality and recreation in our communities. How will life styles change in the years to come? What kind of jobs will be available or be needed then?
5. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Suppose you could speed up the flow of days from today to graduation or to your first day at work or college. Would you be wherever you might be by choice or by chance?

At the middle school or junior high level, you certainly are not ready to map out your life. It is difficult to look very far ahead and know exactly what will be possible. Undertaking some future plans, however, is worthwhile.

It is important to realize that some of your interests will change as you mature. Not only will your interests change, but your experiences may lead you to develop certain abilities and/or aptitudes which will influence the future direction your life takes. Other experiences, like Careers and You, may simply help you know yourself better and help you make realistic plans.

Planning ahead, then means choosing a *direction* for future activities — a direction which harmonizes with you and what you are like. It means thoughtful selection of courses and other activities, both in school and out of school, including hobbies and leisure activities. It may lead you to join certain clubs or participate in certain community groups.

In Careers and You, you have explored work modes, occupational groupings, and representative tasks, in the career world. You have found that these tasks are sometimes part of occupations and sometimes part of hobbies. In thinking about the future, using leisure time to satisfy your interests and needs is also important.

In the next few activities, you will have a chance to explore all the possibilities for career-related experience that may be available to you in your school and community. You may interview working adults, do library research, observe classes, visit businesses and match possibilities to your own interests, abilities, and aptitudes.

Let your possibilities be limited only by your imagination!

Planning Activity

Human Relations

In the beginning of Careers and You, we looked at the things which blend to make a unique personality:

- *hereditary influences,* such as physical characteristics, abilities, aptitudes, and
- *environmental influences,* such as interests and values.

There are other personality characteristics we try to develop when we learn how important communication is. Being a good listener is one example.

Some characteristics are as important to job success as the skills required to do the job. These might include cooperation, consideration, responsibility, honesty and so forth. These traits make *human relations* easier. Special skills related to getting along with others are absolutely necessary in some occupations.

In Activity 30, you will look closer at yourself and your personality chacteristics. You will also look at the characteristics often related to particular occupations.

Comparing individual assets with the personality requirements related to being successful in a job is a good place to start planning for the future.

TASK 1 Human Relations

Purpose:

To gather more information about the personality characteristics that can be used in getting along with others.

Steps:

1. Look at the chart below. Select one of the personality characteristics that you can research and then explain to the class. Use your dictionary and thesaurus to help define and interpret your word or phrase.

Personality Characteristics	*Human Relations Rating Scale*			
a. kindness	1	2	3	4
b. modesty	1	2	3	4
c. cooperation	1	2	3	4
d. courtesy and consideration	1	2	3	4
e. dependability	1	2	3	4
f. enthusiasm	1	2	3	4
g. honesty	1	2	3	4
h. loyalty	1	2	3	4
i. enterprising leadership	1	2	3	4
j. tolerance and respect for other viewpoints	1	2	3	4
k. responsibility	1	2	3	4
l. acceptance of constructive criticism	1	2	3	4

2. When all of the terms have been discussed and defined, rate the strength of each characteristic in your own personality. One equals a rating of *faint;* two is *feeble;* three is *moderate;* and, four means a *strong* point in your personality.
3. When you have rated each characte-

istic, add the ratings and see what score you make on human relations.

Score	*Human Relations*
36-48	You get along very well with others.
23-35	There is room to imporve your relations with others.
12-22	You need to make an effort to improve your human relations skills.

Questions:

1. Why are human relations important in a job setting?
2. What kinds of occupations require special human relations skills?

TASK 2 Who I Am and What I Like

Purpose:

To consider what interests, abilities, and aptitudes you have and to name the work modes and occupational clusters which appeal to you.

Steps:

1. List your three strongest *interests*.
   a.
   b.
   c.
2. List three things which you think you do well — three *abilities*.
   a.
   b.
   c.
3. List three things you feel you could do well is you had the chance or if you had more experience — three *aptitudes*.
   a.
   b.
   c.
4. List the two work modes you favor.
   a.
   b.
5. List two clusters in which you are interested.
   a.
   b.

TASK 3 Occupations File

Purpose:

To relate certain occupations to the personality characteristics that improve a person's performance of those jobs.

Steps:

1. Divide into groups of five or six people. Select a leader and a recorder for each group.
2. Study the list of occupations below. Have the recorder add to the list, if any group member expresses an interest in a different occupation.
3. Each group will use the second list of personality characteristics to try to accurately describe the occupations named. You also may need to add more descriptors to the list.

Occupations	*Personality Characteristics*
insurance salesperson	adaptable
barber	enterprising
motel desk clerk	careful
bookkeeper	understanding
embalmer	imaginative
medical secretary	persistent
school teacher	sympathetic
photographer	well-coordinated
truck driver	precise
guidance counselor	quiet
TV repairman	unemotional
florist	unyielding
TV commentator	curious
data processor	quick
policeman or woman	expressive

4. When each group has finished, let the recorders share their lists with the whole class. Select a file clerk. This person will record each

occupation on an index card and list all of the personality characteristics suggested by the groups. If there is a dispute over any descriptor, discuss the pros and cons and then vote.

5. When each occupation has a completed card, the file clerk can arrange them in alphabetical order and file them.
6. As each class member does more research in the next few activities, new cards and additional information can be added to this file.

Summary:

Though we are born with many characteristics and acquire many more in our earliest years of life, there are certain ones we can work to develop now. These characteristics make human relations easier because they help us get along with other people. There are certain occupations in which a person could not work unless he or she developed those skills.

Planning Activity

Working Together

While it is necessary to have adequate skills for your job and to be an effective individual in your working situation, there are many times that you will be required to work closely with others. There are times when jobs can be accomplished better by working together than by working alone.

In this activity, you will learn about some of the forces that make groups work. Groups differ because of the structure of the group, the kind of leadership within the group and the task required.

TASK 1 Working Alone

Purpose:

To work on a task alone for five minutes.

Steps:

1. Begin working on the quiz when your teacher tells you to start.
2. Complete as many questions as you can without help from any other source.
3. Stop when your teacher signals that five minutes have passed.

TASK 2 Working in a Group

Purpose:

To work on a task within a group for five minutes.

Steps:

1. Form groups of three or four people.
2. Begin working on the quiz when your teacher tells you to start.
3. Work cooperatively with the other members of your group to answer as many questions on the information sheet as possible.
4. Stop when your teacher signals that five minutes have passed.

Questions:

1. What happened when you worked alone?
2. What happened when you worked with your group?
3. What did you learn from this exercise that would be helpful in other situations?

TASK 3 One Way to Form Groups

Purpose:

To form groups with similar interests.

Steps:

1. Choose the work mode that interests you at this time and write it on a piece of paper. Make your choice carefully, without any regard to the choices your friends make.
2. Attach it to your shoulder so that others can read it easily.
3. Find a partner who has chosen the same work mode as you.
4. Find another pair who also chose that mode.
5. As a group of four, list the things about your chosen mode that attracted you to it.

Planning Activity — Working Together

Questions:

1. What are some of the reasons that we form groups?
2. What kind of groups are found in your school? How are they formed?
3. What are some groups in which you participate now?
4. What are some groups that look attractive to you for the future?

TASK 4 Group Leaders

Purpose:

To look at three styles of leadership in groups.

Steps:

1. Each person in a group plays an important role. One may forcefully express his or her views. Another may encourage others to communicate. One may refuse to participate in group work, while another will trail along in whatever direction the group wants to move. Every group is different. Each one is dependent upon the characteristics of the people involved.
2. Group leaders can be either appointed or self-appointed. A leader may take charge if no one else expresses a strong interest in the group's work or if no one else knows as much about the subject. The way a person directs a group is often described in one of three ways: autocratic, democratic, or laissez faire (les' ā fer').
3. The *autocratic* leader is a director. Like Charlie Brown's friend Lucy, this leader always wants to be in control of what's happening. This kind of group experience often gets a lot accomplished in a short amount of time. Over a period of time, however, less is done because other group members lose interest or quit.
4. The *democratic* leader encourages all members to participate, give their points of view, and pull together. In such a group, the leadership role might be passed to several individuals at different times. This kind of sharing is not as fast as the work of a group with an overpowering leader. However, the democratic leader will have better input for a longer length of time because there is more than one source of inspiration.
5. *Laissez faire* is a French expression which means "let them do as they please." It has come to mean a policy of not interfering with or directing the affairs of other people. In a group leader, this could be called "wishy-washy." For the kind of group that depends upon its leader to set the stage, this could mean few decisions and little gained. On the other hand, where there is an absence of leadership, there is room for others to step in and fill the role.
6. These three kinds of leaders are present in groups in every community. Give an example of each type of leader by thinking of people in your community or people in the news.
   a. autocratic leader:
   b. democratic leader:
   c. "laissez faire" leader:

Questions:

1. What leadership role do you feel you could play?
2. Do different kinds of groups need different kinds of leaders? Explain.
3. When would it be helpful to have an autocratic leader?
4. When would a democratic leader be better?

TASK 5 Group Assignment

Purpose:

To interview local working adults whose jobs interest you.

Steps:

1. Form the mode groups again that you joined earlier in Task 3.
2. Choose a leader.
3. Prepare a list of employed people your group would like to interview. Choose people whose occupations represent the work mode you prefer. They may be school employees who can be interviewed during study hall. They may be neighbors in your community that you can see after school. Not everyone will be available when you need them, so list a few more names that you actually need. Your teacher will want to compare the groups' lists to see that names are not duplicated.
4. Decide who will contact and interview the people on your list. It will be helpful to practice interviewing each other first. Look at the sample below.

a. *Greeting* - "Hello" or "Good morning" are two simple, pleasant ways to greet anyone.
b. *Introduce yourself* - "I am Albert Myers."
c. *Explain your purpose* - "I am interested in learning more about your work — especially how you work with other people. All of the students in our careers class are talking to people about their jobs, so that we can set up an information file in our room. Could you help me by answering a few questions?"
d. *Interview form* — Take notes on all of the information requested by the Interview Form below.
e. *Finishing up* — "Is there anything else you might want to add to this description of your job?"
f. *Thank you* — "Thank you for helping me today. The class should be very interested in this information."
g. *Departure* — Shake hands if you feel it is appropriate and say good-bye.

5. In the real interview, you will fill out a form like the one below. Make sure you understand what you are asking the person to tell you.

Human Relations
Interview Form

Name: _____

Occupation: _____ Phone: ____

Agency or Business: _____

Address: _____

Job Description (tasks, responsibilities, and so forth):

Work Environment
a. Physical characteristics (example: indoor work, factory, noisy, at a desk, etc.):
b. Human relations (working alone, working for someone, supervising others, etc.):

Training or education needed:

Other notes (prediction for future demand of this occupation, etc.):

Would you be willing to come to our class and tell about your work?
Yes___No___

6. When you feel you have practiced enough, conduct your interview.
7. Take the information you gathered from the interview and transfer it to an index card. File the cards alphabetically according to the occupation.

Planning Activity – Working Together

INDEX CARD

Occupation *Name* *Business* *Address* *Phone* *Duties*	*Work Environment* *Training* *Other Notes*
(front)	(back)

Summary:

While many jobs can be done by an individual, there are also many times when people must work together. The reasons that people form groups, the kind of leaders within the groups and the participants themselves affect what the groups are able to accomplish.

Planning Activity

Preparing to Work

Knowing what kind of occupation you may want to have someday is a good piece of information with which to start junior high or high school. To translate that bit of information into a real plan of action is even better.

Any planning that involves a goal to be realized in several years needs to include the idea of possible change. People who are willing to change when the situation demands it are called flexible. They are called adaptable when they actually do adjust to new circumstances.

There are many things that could change before you are ready to undertake your first job. The demand for your occupation could grow or shrink. Your interests may change. You may not be able to afford the time or money it takes to train or be educated for that occupation. That is why it is important to be flexible.

In this activity, your particular needs will be explored. This means understanding what choices *you* have to make. Your choices include the different programs offered at your school, other training available, and the experiences in and out of school that you can choose to spend time doing. Remember that your plan is simply a *direction* in which to move.

Vocabulary Words

curriculum — specific

flexible — adaptable

TASK 1 Occupational Preparation

Purpose:

To read and discuss information on preparing for an occupation.

Steps:

1. Read the information which follows. Think of people you have known who have been through these different types of preparation for working.

High School

Within the high school curriculum, there are usually three broad paths that you can follow. The *vocational path* offers courses in areas such as agriculture, business, and home economics (both consumer and occupational). In most instances, the skills gained allow the student to become employed immediately upon leaving school.

In the *academic or college path*, there is more emphasis on science, mathematics, foreign languages, and other courses required for college entrance.

The third possibility for high school students is the *general course of study*. This program includes both

vocational and academic subjects. If you are not very sure what you want to do, you might take such a program. From that point, you can go on to a community college and/or enter into vocational training.

In some instances, students are able to combine these paths so that they are prepared with a vocational skill as well as the ability to continue in college. Such a program might be harder, but it could also provide a means of income earlier in order to finance a college education.

Local school divisions will have a variety of courses and specific requirements for each program. It is a wise plan to thoroughly understand the programs within your own high school.

Vocational-Technical Schools

The federal government, with the cooperation of local and state agencies, has helped to establish vocational-technical schools throughout the state. They are used to provide programs for high school and post high school students, as well as for adults in the evenings.

The two purposes of vocational schools are - a. to provide manpower for the community in areas where skills are needed, and b. to provide students with training for salable skills.

The expense of going to a vocational school is usually very low. Often it is "free" public education. Fees for supplies and tools for the classes will vary, depending upon the courses.

The areas of business, agriculture, occupational home economics, health, and trade and industrial education are included at these centers. The type of courses in technical/industrial education will vary with the needs and opportunities of the local community.

Public Community Colleges

There exists throughout the state of Virginia a network of twenty-three community colleges. They are located so that a college is within commuting distance of everyone. This means that students are not required to live away from home. This is a great financial advantage, to live at home while working and take evening classes at a community college. This makes it possible for students to have two years of post high school experience in an inexpensive way.

Many academic courses are offered, as well as two year technical programs. Specialized programs may be related to trades and industry, agriculture, occupational home economics or business. Upon completion of these courses, a person is equipped to take managerial or skilled jobs. The academic programs often offer courses that can be credited to programs in a regular four-year college. The A.A. (Associate Arts) and A.S. (Associate Science) degrees are available at this level.

State Colleges and Universities

Colleges: State colleges generally offer four-year programs leading to Bachelors of Arts or Sciences. Most professional occupations, such as teacher, dental hygienist, and so forth, require at least four years of training and some require more. Often colleges offer *Master's degrees*, requiring an additional year or two of study. However, they seldom offer the *Doctor's degree*, requiring education beyond the master's program. State colleges in Virginia include Madison, Longwood, Radford, Mary Washington, Virginia Military Institute, Virginia State College, and Norfolk State.

Universities: The more far-ranging and expensive programs of study such as medicine, law, and architecture are taught at universities. These

programs require five to eight years of study. Often several types of advanced degrees are awarded at these institutions. They might include M.D., Ph.D., Ed.D., and D.D.S., as well as others.

M.D. — medical doctor
Ph.D. — doctor of philosophy (variety of subjects: Biology, Animal Science, Mathematics, Engineering, etc.)
Ed.D. — doctor of education
D.D.S. — doctor of dental surgery
D.V.M. — doctor of veterinary medicine

The Ph.D. and Ed.D. degrees are offered at all of the universities in the state. Subject areas vary with the university. Dental, medical, and law degrees are awarded at the University of Virginia. Law degrees are also awarded at William and Mary. The D.V.M. degree is not awarded at any university in Virginia, though there have been efforts to establish a school of veterinary science at Virginia Tech. State universities in Virginia include William and Mary, Virginia Commonwealth, George Mason, Old Dominion, Virginia Polytechnic Institute and State University, and the University of Virginia.

Nonpublic Education

It should be noted that there exists in Virginia a wide variety of private training schools. Skills for such jobs as commercial artist, real estate broker, and radio announcing are taught at the post high school level. Programs vary in length, depending upon the particular job for which a student is training.

Private four-year and two-year colleges and technical institutes also offer a broad range of programs. Many of these institutions have the advantage of smaller enrollments than the state universities. However, the costs for attendance are usually higher.

Apprenticeship

The practice of apprenticeship dates back many hundreds of years. Then goods were produced by skilled craftsmen or journeymen. They taught the young people who were apprenticed to them how to work at their trade. A young person would agree to work in that craft or trade for a certain length of time, in exchange for instruction.

Today, apprentices are in training in all of the major industries. Apprenticeship occupations are those learned in a practical way through two or more years of training and work experience on the job. Retail, managerial, professional, clerical, and agricultural occupations traditionally have not been apprenticed. Baker, bricklayer, candymaker, carpenter, draftsman, electrical worker, machinist, pottery worker, printer, and upholsterer are basic trade occupations that are apprenticed.

In Virginia, an apprenticeship council appointed by the governor makes policies and sets standards for training. Upon the completion of apprenticeships, certificates of journeymanship are issued.

Adult Education

There are many ways for adults to raise their educational level and become more effective in their work. Many adults are involved in formal education of one kind or another. Opportunities to complete high school requirements are available through local school divisions. Also, trade and industrial training is offered at vocational-technical centers and community colleges. Many colleges and universities hold classes in the evenings so that adults may work toward their degrees or catch up on professional happenings.

Chart 1

Types of Occupational Preparation

	Vocational-Technical	Co-op/ Apprenticeship	Junior/ Community College	Four-Year College	University	Adult Education	Military
How long will it take?	2-3 years	varies	2 years	4 years	4+ years	varies	2-3 years
How old must I be?	--high school age --post high school	16 years and above	post high school	post high school	--post high school --post college	adult	18 yrs. or 17 yrs. with parents' consent
What is required for entrance?	high school level students (some aptitude tests depending upon course)	depends upon the type of apprenticeship	high school graduation	--high school graduation* --college entrance exams	--high school graduation* and college entrance exams or --college graduation* and the Graduate Record Exam or the equivalent	--more than 16 years of age	entrance test required
How much will it cost?	often very little or free; usually have to pay for materials/books	very little; often individual is paid while learning	low-cost tuition; usually have to pay for books and lab fees	varies; state-supported colleges cost less than private ones	varies; advanced programs such as medicine are more costly	varies, depending upon what is undertaken	earn while learning
What topics will I study?	--health --business --home economics --agriculture --industrial --technical	--generally specialized skills --also business training programs	academic and technical courses	--highly specialized technical training --professional training --liberal arts studies	many of the same broad areas of study that a four-year college would offer, plus graduate programs in such areas as medicine, law, and architecture	many possibilities: subjects for high school diploma or college degree requirements, special interests such chair caning or banjo playing	--technical skills --business
What can I do after this preparation?	--permanent employment --part-time employment to finance further education --obtain military or apprenticeship ratings --high school graduation	--same as vocational-technical preparation, though skills may be more refined and thus provide better paying jobs --high school graduation --certified journeyman	--same as vocational-technical preparation and apprenticeship --also some credits earned may be transferred to four-year colleges	--full-time employment (many jobs well paid) --graduation with bachelor's degree qualifies a person for graduate school	--full-time employment --graduation with a bachelor's, master's, or doctor's degree often means a well-paid professional job	--full-time employment --high school diploma --college graduation --university graduation	--skills often have civilian application --ROTC*: graduates become commissioned officers

*Scholastic requirements vary with the college or university.
*Reserve Officers' Training Corps

Adult and continuing education is the fastest growing part of education today, because more of our population is older. People also have more free time to follow their interests.

Military Training

The military services offer that advantage of earning and learning at the same time. Many of the skills learned during service in the army, navy or air force can be used in civilian life when the tour of duty is completed.

Enlistment into one of the services is possible upon graduation from high school. A person can enroll in preparation programs while in the service and receive educational assistance when the enlistment is over.

Sometimes junior ROTC (Reserve Officer Training Corps) programs are available at the high school level. Military science courses are part of the curriculum and students involved in this can go on to a regular college program. College ROTC programs graduate their students as commissioned officers. Courses related to military science are required.

Preparing to Work — *Planning Activity*

Military service can provide a wide variety of lifetime careers, with other benefits such as travel.

Cooperative Education

Cooperative programs are available at the upper high school level and at the college level. The biggest single advantage is earning while learning. High school programs usually include marketing and distribution occupations, business occupations, industrial occupations, and technical occupations. Students spend part of the school day in a regular classroom and the rest of it in the community working. Persons involved in the programs are paid for the work they do according to their skills and experience.

Internship

Today there are many opportunities for internships. A person may be apprenticed on a regular basis to an employed person, work in a community organization or even within a school setting to learn more about a particular type of work. Sometimes an intern is not paid, working in an informal exploring and learning situation. The age requirements vary according to the job.

2. Study the type(s) of preparation in Chart 1 most interesting to you.

TASK 2 Relating Occupations to Types of Training

Purpose:

To name occupations that represent both work modes and types of preparation for work.

Steps:

1. Study Chart 2 carefully. Make sure you understand why each occupation listed is an example both of a work mode and a level of preparation.
2. Using whatever reference materials you can find, fill in Chart 3 on page 160.

Chart 2

Examples of Jobs Within Each Work Mode at Different Levels of Preparation

	INVESTIGATIVE	SOCIAL	CREATIVE	CONVENTIONAL	ENTERPRISING	MECHANICAL
VOCATIONAL-TECHNICAL	*machine inspector*	*nurse*	*baker (cake decorator)*	*typist*	*salesperson*	*bricklayer*
APPRENTICESHIP	*bank loan officer*	*tour director*	*photographer*	*printer*	*supervisor*	*plumber*
COMMUNITY COLLEGE	*fire inspector*	*teacher's aide*	*nurseryman*	*computer operator*	*restaurant manager*	*automotive machinist*
FOUR-YEAR COLLEGE	*city planner*	*social worker*	*commercial artist*	*CPA*	*recreation director*	*civil engineer*
UNIVERSITY	*research chemist*	*doctor*	*architect*	*librarian*	*lawyer*	*construction contractor*
ADULT EDUCATION	*lab technician*	*child care worker*	*floral designer*	*bookkeeper*	*real estate salesperson*	*draftsman*
MILITARY SERVICE	*military police officer*	*club officer*	*illustrator-draftsman*	*clerk*	*drill sergeant*	*vehicle inspector*

Chart 3

Examples of Jobs Within Each Work Mode at Different Levels of Preparation

	INVESTIGATIVE	SOCIAL	CREATIVE	CONVENTIONAL	ENTERPRISING	MECHANICAL
VOCATIONAL-TECHNICAL						
APPRENTICESHIP						
COMMUNITY COLLEGE						
FOUR-YEAR COLLEGE						
UNIVERSITY						
ADULT EDUCATION						
MILITARY SERVICE						

TASK 3 Career Window-Shopping

Purpose:

To prepare a *Window to Tomorrow* for a career of your choice.

Steps:

1. Look at Chart 4, an example of how to fill in a *Window to Tomorrow*. Each section of the chart gives you a chance to do some realistic dreaming.
2. Prepare a career window for yourself, using Chart 5. Be very specific with your answers. Though your plans may change, think of what you would do with the interests you have now.

Chart 4

Window to Tomorrow

HIGH SCHOOL COURSES	EXTRA CURRICULAR ACTIVITIES	COMMUNITY EXPERIENCES
Type of program: (academic, general, or vocational) *Vocational* Courses: *agriculture chemistry*	*4-H* *Future Business Leaders of America*	*Scouts* *recreation league*
WORK EXPERIENCE	**SPECIAL TRAINING**	**OTHER EXPERIENCES**
babysitting *newspaper sales* *store clerk*	*military* *apprenticeship* *college*	*travel* *community efforts*

Chart 5

Window to Tomorrow

HIGH SCHOOL COURSES	EXTRA CURRICULAR ACTIVITIES	COMMUNITY EXPERIENCES
WORK EXPERIENCE	**SPECIAL TRAINING**	**OTHER EXPERIENCES**

TASK 4 Optional Task

Purpose:

To play the game *Occupations*.

Steps:

1. Divide into four equal teams.
2. Choose a moderator, if the teacher does not moderate. This person is the scorekeeper and the one who decides if answers are acceptable. She or he begins and ends each round with a signal.
3. Look at the sample problem on page 162. The young woman wants to be an auto mechanic. The team with this problem must decide what training, outside activities, and courses this person needs to take to prepare for her chosen career.
4. As soon as the team completes the answer, signal the moderator for a decision. The first team with a correct answer wins.
5. There can be as many rounds to this game as everyone agrees to have. The team with the most points is the winner.

Planning Activity — Preparing to Work

Sample:

Job Desired: *auto mechanic*

Description of Person

Sex: *female*

Age: *13*

Financial Restrictions: *none*

Academic Achievement: *above average*

Interests: *working on bikes and cars*

Sample Answer:

Training: *vocational-technical school (grades 11 and 12)*

Experiences: *part-time work in service station*
hobby: rebuilding old cars
participation in Vocational Clubs of America (VICA)

Courses: *(secondary school)*
junior high:
"Transportation"
"Power Mechanics"
high school:
"Auto Mechanics"

6. It is acceptable to use resources on job preparation and related experiences. Listed below are some good sources.

Dictionary of Occupational Titles
Occupational Outlook Handbook
An Analysis of Fifteen Occupational Clusters

Books on specific careers
Filmstrips and cassette tapes on careers
Motion pictures
Pamphlets and brochures
College catalogs
Employed persons
Military recruiting officers

Summary:

In our complex society, planning is a difficult task. However, thinking about yourself and the future will prove to be helpful in setting some goals for yourself.

Having completed some planning, you now should have a better idea of what to do next. You can plan to take certain courses, join clubs, learn new crafts or practice different sports. There are definite ways to plan for tomorrow when you have an idea of the direction in which you want to head.

Question:

1. Name two different ways to prepare for a job as an auto mechanic. Think of other jobs that interest you and name the kinds of preparation they would require.

Planning Activity

Researching an Occupation

In this activity, you will be given time to do a study of something in which you are interested. You may choose any topic related to work modes or occupations. You may do your research in books or with people.

Careers and You wants to allow time for you to collect your thoughts about future occupations and put them down on paper. Perhaps ten years from now, you will reread your research and see how much ten years of experience is worth.

TASK 1 Research

Purpose:

To thoroughly research some topic relating to occupations.

Steps:

1. Decide what area you wish to explore more thoroughly.
2. Make a list of ways that you would like to get more information. These might include talking with people who are employed, talking to retired citizens, using various resources within the classroom or school libraries, visiting other classes, visiting businesses or places of employment, visiting school-related clubs.
3. Most of the arrangements for making the study can be done individually. However, it may be necessary for your teacher to help.
4. Plan a schedule for completing your study. The teacher will set a deadline for you.

TASK 2 Sharing Your Research

Purpose:

To share your research findings in some way, such as by making a display, doing a demonstration, preparing a set of overhead transparencies, writing a report, or designing posters.

Steps:

1. Other people will be interested in the research you gathered in Task 1. You must now find a way to share it.
2. Some kinds of information are best related to other people in a verbal demonstration or report. Other kinds are better organized in a poster or display. For instance, if you chose to research the work modes found in selected marine science occupations, you could arrange a chart comparing the occupations in this way. You could also make a collage for each occupation, illustrating other information discovered in your research.

   On the other hand, you may have interviewed a number of people as part of your research. To communicate what you learned from them, you may need to make a verbal presentation and answer questions from the class. Consult with your teacher if you are unsure of the best way to present your findings.
3. Gather your materials and prepare your chosen project.
4. The teacher will make arrangements for you to present the project to your class or to another interested group, such as the PTA.

Planning Activity – Researching an Occupation

Summary:

In our complex society, planning is a difficult task. However, thinking about yourself and the future will prove to be helpful in setting some goals for yourself.

Having completed some planning, you now should have a better idea of what to do next. You can plan to take certain courses, join clubs, learn new crafts or practice different sports. There are definite ways to plan for tomorrow when you have an idea of the direction in which you want to head.

Questions:

1. What important ideas did you learn from making the study?
2. How was the overall experience helpful?
3. In what other ways could you learn about different areas of work?

The relationship between self and work mode is extremely important. We must be able to feel self-satisfaction in our lives - both in our work and play.

Personality characteristics make some jobs and hobbies attractive to some persons and unattractive to others. These personality characteristics find expression in our interests, abilities, and aptitudes.

Work modes describe how we use our personality characteristics to respond to our surroundings in various ways. We often find ourselves in more than one work mode throughout the day.

ACTIVITY 30

REVIEW OF MODES

In the first semester of Careers and You, you examined your own personality characteristics. You looked at the ways heredity and environment affect personality development. This is a good place to begin the search for an occupation that expresses *your* interests, abilities, and aptitudes.

These inclinations that people have toward certain styles of work are reflected in the six different *work modes:* mechanical, conventional, enterprising, social, investigative, and creative. You'll remember from Activity 9 (pages 32 and 33) that mechanical and creative occupations generally deal with *things*. Conventional and investigative occupations deal with *data*. Enterprising and social occupations basically deal with *people*.

However, these work modes are only one half of what it takes to describe an occupation. The other half of the description is the particular *knowledge* it takes to do a job. To acquire or obtain that knowledge, one often has to be trained, educated, or experienced in some way. We have seen that this preparation begins as you try out exploratory experiences both in and out of school.

There are vast differences in preparation and also in the work modes themselves. For example, while both the surgeon and the jeweler work in the mechanical work mode, their surroundings are vastly different. Even though fine muscle control and similar, small tools are used, the surroundings are as different as an operating room, on the one hand, and a jewelry store, on the other.

Another difference within work modes is the degree to which each is used. For example, a minister devotes much time to people in a very personal manner — in the social work mode. His or her responsibilities may include Sunday School, church service, youth activities, visiting the sick, and consoling people in time of death and great stress. However, a babysitter, also working in the social mode, may help a child for a single evening with no further involvement. The social work mode may be less important to this person than a minister. Of course, a person who works as a full-time babysitter also spends much time in the social mode.

This activity will help you think more about work modes. You have simulated each of the six work modes and discussed different groups of occupations. By now, you may have changed some of your own thoughts about work modes and the way they match your interests, abilities, and aptitudes.

TASK 1 Reviewing Work Modes

Purpose:

To review the six work modes and identify the ones you have experienced.

Steps:

1. Refer to the description of work modes in Activity 9 (pages 32 and 33) and refresh your memory on the differences between each.
2. Divide a sheet of paper into six columns and title each column with a work mode.
3. Go to your collection of mode pies for Activities 13 through 29. In some activities, you probably experienced several work modes.

Write the activity number in the column of every work mode you encountered in that activity. If you worked in both the social and enterprising work modes in Activity 14, put the number 14 in both columns.

4. Next, enter in the work mode columns any club or group activities of which you have been a part this year. For instance, you may have been a member of a debate team, which is an enterprising and perhaps an investigative activity.

TASK 2 Matching Occupations and Work Modes

Purpose:

To identify the work mode that is most important in describing certain occupations.

Steps:

1. Look at the list of occupations below:

town clerk — accountant
fireman — welder
reporter — musician
society editor — chemist
advertising manager
life insurance salesman
guidance counselor
construction foreman

2. Choose the work mode that best describes the work style of each occupation. Be prepared to explain your answer.
3. Discuss each occupation as a class and note the different modes that are chosen.

TASK 3 Choosing Work Modes

Purpose:

To identify the work modes in which you feel most comfortable.

Steps:

1. If you could choose to spend an average day working in certain modes, how would you divide your day? You might spend part of it helping someone in the social work mode and another part daydreaming, thinking and planning in an investigative way.
2. Using a scale of one to ten, allot a certain part of your day to the following work mode activities that you like best. In other words, divide your day into ten parts like the example below.

Example

4 parts (40%) using machines
4 parts (40%) helping people
2 parts (20%) doing routine tasks

a. _____% unscheduled activity, self-expression, few people around.
b. _____% helping others, working with people.
c. _____% doing routine or repetitious tasks, following rules or instructions, dealing with memorized or verbal data.
d. _____% using tools and machines, getting definite results from your activity, working on your own.
e. _____% daydreaming, thinking, solving difficult problems, planning, working with few people.
f. _____% convincing others, talking, leading, being in control.

3. When you have thus chosen the modes you prefer, compare your current choices with the ones you choose in Activity 11, page 41. They may be the same, but don't be surprised if your interests have shifted.

Summary:

Many occupations are similar. They can be grouped into six work modes or combinations of those modes. Within one work mode, an occupation may be more clearly "social" or "mechanical," and so forth.

Though occupations may be similar, preparation to work in them may be very different. Such training in detailed knowledge and skills is also subject to change, as more accurate facts or better ways of doing things are learned. This means job training does not end with college, apprenticeship, or whatever, but that re-training is often necessary. Certain skills, such as following instructions, figuring percentages, and organizing one's work remain important however. Those kinds of skills have always been practiced by good nurses, blacksmiths, researchers, and craftsmen. They are valuable in many different careers.

Questions:

1. What are two things to remember about describing an occupation?
2. What mode did you discover in Task 1 to be the mode you experienced most in Activities 13 through 29? Is it the same for every student in your class? Why?
3. Has the work mode preference changed for some students since the beginning of the year? Why or why not? Will it ever change again? Why or why not?
4. Explain how two persons working in basically the same work mode may have different work surroundings. Give an example.

ACTIVITY 31

IDENTIFYING OCCUPATIONS

In Activity 30, you looked again at the work modes and reviewed your experiences with them. Your choice of modes may change as you grow older, but this will happen more slowly than the change of the detailed knowledge and skill required for an occupation.

In this activity, you will take another look at work modes, but this time you will examine the different knowledge areas or clusters.

TASK 1 Career Charades

Purpose:

To guess the work mode and cluster of an occupation being pantomimed.

Steps:

1. Divide the class into two groups. Obtain as many small slips of paper as the number of people in each group.
2. On each one, write the name of an occupation, the strongest mode found in that occupation, and its cluster grouping. An example might be typist/conventional mode/Business and Office Cluster.
3. Fold the slips of paper and put them in a container. As each team takes a turn, one person will draw an occupation to pantomime and take 30 seconds to get an act together.
4. The opposing team will try to guess both the work mode and the cluster. They will have no more than two minutes to figure them out. When the answer is guessed, the teacher will record the amount of time taken.
5. The team which took the least amount of time to guess all of the charades will be the winner.

TASK 2 Mode and Cluster Identification

Purpose:

To identify the work modes and clusters being used by people while viewing a film or filmstrip.

Steps:

1. Your teacher will show a film or filmstrip illustrating people at work. Make notes about what you see — anything that interests or amuses you.
3. Discuss your observations with classmates. See if they agree with yours.

Questions:

1. List some ways that you express your interests through your style.
2. Which do you consider more important in selecting a career: style or knowledge?
3. Does style or knowledge change more rapidly?
4. List the subjects you are currently taking in school. Beside each one, list the mode(s) you use most.

Summary:

Occuaptions may be grouped according to the work modes they share in common. They also may be related by "clusters." What these occupational clusters share in common is a body of knowledge relating all the occupations within them. While these occupations share a common topic, each one also has a special body of knowledge and skills which must be understood or developed.

A person can begin to gather some of these facts and skills in school. *Exploratory courses* help in this way, while also allowing one to try out the related work modes. Of course, such skills as the ability to express thoughts so that others can understand is very important in many kinds of work. Many experiences in and out of school help you with basic skills.

Within each work mode, there is a great range of choice in occupations. For example, within the mechanical mode, there are occupations involving tiny tools and small muscle control, as well as hugh machines demanding strength and large muscle control.

The jeweler and the machinist both work in the mechanical mode. They both need mechanical aptitude, good coordination, and the satisfaction of seeing the results of their efforts. However, their surroundings on the job are very different. Their interests are also different, because they have chosen different occupational clusters, which represent areas of interest.

In the next several activities, you will continue to try out each of the six work modes, but you will also look at the areas where each of the work modes may be found.

Activity 32

Reviewing Public Service

Within your community, there are many persons who work in the Public Services Cluster. What they share in common is a number of occupations supported by the public's taxes and carried out for the public's good. While all are members of the same cluster, their occupations differ greatly. Firemen, teachers, judges, and road repair crews each have special skills and knowledge which are different. Together, they provide the services which allow your community to "work".

Each person began preparation for work while still in school, even if it was not actually planned. Activity 32 will help you focus upon the people who work for your community and the kind of preparation helpful to their jobs.

Vocabulary Words

composition reproduction

collate

TASK 1 Community Meeting

Purpose:

To do some planning for the community's future.

Steps:

1. Call a meeting of the Town Council that was formed in Activity 15.
2. Review briefly the responsibilities of a Planning Commission.
3. This meeting has been called to investigate several things about the community. The Council will try to identify:
   a. community services which are or should be provided,
   b. ways of making the community a more attractive place in which to live, and
   c. ways of informing the public (especially tourists) about the community.

A sample discussion of this sort may include the suggestion to straighten Main Street. The Council may decide to postpone action until

- Only one out of every five city managers works in a town larger than 25,000 people.
- There are 200,000 firemen in the United States today and employment is expected to increase rapidly over the next ten years.
- About one out of every 12 policemen works in New York City, and most of the rest work for other large cities.
- About 2.7 million full-time teachers were employed in elementary and secondary schools and colleges in 1973, — 1.7 million were women.

a special committee can be formed to study such a plan. On the other hand, a sign such as "Welcome to Our Community" may also be recommended. The Council may appoint a group to carry out this plan.

5. The Town Clerk will record all suggestions. Then, each citizen will be assigned to one of two groups: one to help with the community's *public relations* and one to help construct a *model community* of the future. The first group will do Tasks 2 and 3, and the second group will do Tasks 4 and 5.
6. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 2 Community Publication

Purpose:

To produce a special issue newspaper describing recreation in your community.

Steps:

1. Many communities draw attention to their special recreational opportunities by distributing a free "newspaper" to visitors and tourists. Your community will print a special issue of this sort.
2. The skills needed to produce a newspaper range from writing to distribution. Look at the job descriptions which follow:

   Editor: edits all copy, oversees the entire operation, coordinates the writing and printing,
   Managing Editor: sees that the newspaper is printed, collated, and distributed to the rest of the class and school,
   Advertising Manager: obtains, writes, and designs advertisements for the paper,
   Artist: provides illustrations for stories and advertisements,
   News Editor: coordinates the gathering and writing of general news articles about the community,
   News Reporter: gathers and writes general news articles about the community (such as interviews with locally important people),
   Recreation Editor: coordinates the gathering and writing of articles dealing with hobbies and community sports,
   Recreation Reporter: gathers and writes articles dealing with hobbies and community sports,
   Features Editor: coordinates the gathering and writing of articles dealing with recreation, entertainment or social functions in the community,
   Feature Reporter: gathers and writes articles dealing with recreation, entertainment, or social functions in the community.
3. Add other positions to your staff, if you think it is necessary. Choose a person to be responsible for each job and then call a staff meeting.
4. The editor is in charge, so she or he must organize the staff and begin the operation. First of all, the special publication needs a name.
5. Next, discuss all the people and events you may want to include in this issue. Remember that your purpose is to present a favorable image of the community and its entertainment features. You may begin by thinking of the many ways people use their spare time.
6. When a list of possible stories has been made, the next thing to do is to set deadlines for each step of the process. Begin by naming a goal for the *completed issue*.
7. Then, the first deadline to meet will involve the News, Features, Recreation and Advertising staffs.

These workers must turn in *rough copies* of their articles and ads to the editor who will then edit them for grammar, spelling, punctuation, and flow of thought.

8. The second staff deadline involves the *composition* of each page, that is, arranging the ads and then the stories to produce a pleasing effect. Each story has a headline that can be typed, stenciled, or hand-drawn on the mimeograph page. If you are able to reproduce the newspaper by using a duplicator, then you may use rub-on letters to make the headlines. Each one of the different staffs will be responsible for its own pages, but the editor must set some general guidelines on headlines and so forth.
9. When the three deadlines are set for rough copy, page composition, and final distribution, then each section editor must meet with his or her reporters and get organized. Decide what stories will be written and who will do them.
10. The news editor and reporters will be looking for interesting stories about the community. Think about reporting the constructive things that are going to make your community better. This might include the opening of evening classes for adults who want to get their high school diploma or earn credits toward a college degree. The Town Council and the Planning Commission may be other sources of articles.

    While investigating the stories, try to gather accurate information on these questions: *who, what, where, when, why, how?*
11. The features editor and staff are responsible for recreation and entertainment stories, such as articles on how to construct a picnic table or how to make colorful party favors. Social events and interviews with local personalities (such as a bicyclist who has ridden to faraway places) also make good features. Recipes from local good cooks, fashions, movies, plays, and concerts are other suggestions.
12. The recreation editor and reporters may want to read a few articles in the sports section of their local newspaper. Pay attention to articles on hobby sports, since many people picking up your paper will be looking for ways to spend their spare time. Articles on local sports personalities are also good.
13. While the reporters are investigating stories, the editor will write a brief (150-200 word) editorial on some attractive feature of the community, such as recreation, history, landscape, or interesting facts about the area.

    An editorial is an essay written to influence public opinion and/or to promote some course of action. It should reflect the best interests of the community. It can interpret, criticize, persuade or praise. Because editorials are brief, every sentence must support the main idea. Editorial cartoons may be used in place of or with the editorial itself.
14. The advertising manager and staff are also hard at work before the first deadline. Members of the class may help by posing as local business owners or managers with goods and services to advertise. The advertising staff will take these suggestions, add their own, and then design the advertisements. Have the editor check a rough draft of each advertisement before the final one is prepared. Like the headlines, they may be typed, stenciled, hand-drawn, or transferred from rub-on letters.
15. The managing editor will be concerned with composition before the first deadline. Each page (except the first page of a section) must be divided between articles and advertisements.

    Take blank pieces of paper to represent all of the pages in the completed issue. Mark on each one the kind of stories that will be put there, such as "news" or "features." Each of the different section editors will want at least two or three

pages, with the first one of each section being only articles and the others having advertisements. Draw boxes of different sizes where the advertisements will be. Planning the pages ahead of time in this way will make the actual composition easier.

16. The artists will work on illustrations for articles and ads as soon as the section editors know what kind of illustrations they need. The stories should be arranged so that there are interesting drawings here and there. Pictures not only catch a person's attention, but they actually make it easier to read a page. The advertisements should also be interesting and creative enough to help the total effect.
17. When the rough copies of the articles and ads are turned in to the editor, he or she will read them for errors. The staff then may begin work on the second deadline - composing the pages.

    The composition will be different for different methods of reproduction.

    For mimeograph machines, each story and advertisement must be typed or drawn on a stencil. It may be helpful to make a "trial run" by practicing on a sheet of typing paper before using the stencil.

    If a duplicating machine is available to print your paper, then the stories and ads may be typed or neatly printed on one page and then cut apart, arranged and glued on another. Rub-on letters may also be used for headlines and advertisements.
18. As each page is finished and made ready for reproduction, the managing editor may check for errors a final time. Then, he or she will see that the pages are reproduced and collated, with the help of appointed staff members.
19. Distribute the completed special issue to the "community" and to other classes in the school, if desired.
20. What is a 4-H achievement related to this task?

TASK 3 Community Radio and TV

Purpose:

To report more about your community through advertisements styled for radio and TV.

Steps:

1. Choose the newspaper articles which you feel reported the most important information about your community.
2. Write a 60-second news release for radio (your school's P.A. system) which reports the highlights of these articles. They may be very brief, like headlines.
3. Write a 60-second news release for TV and make an overhead transparency (optional) to use with it.
4 Your teacher will make arrangements for the presentation of these advertisements.
5. Identify a course related to this task.

TASK 4 Community Planning

Purpose:

To choose the future location of certain buildings within your community.

Steps:

1. Obtain a map of your community.
2. Draw an enlarged sketch of the map on the board, using an overhead projector if necessary.

3. As a community grows and changes, ideas change on ways to make the living space more pleasant and healthy. Identify vacant lots and old, unrepairable buildings which could be the sites for new businesses and community services.
4. As a class, discuss the pros and cons of locating the following new buildings in your community:
   a. shopping center,
   b. school,
   c. medical clinic, and
   d. teen center.
5. Now, work individually to sketch your own community plan. Make a simple and quick sketch, considering the location of other stores, offices, and community services. Label each site, so that others can easily understand your plan.
6. Share your ideas and reasons for the locations you chose.
7. Call the Town Council together again. Vote to accept a plan, or a combination of plans, that will lead to the placement of these future buildings.
8. Add these new buildings to your community map.
9. Name a Scout merit badge related to this task.

TASK 5 Model Community of the Future

Purpose:

To make a representative model of your community in the future.

Steps:

1. Obtain a sheet of plywood, cardboard, or a similar kind of material about 3' x 3'.
2. Tape your community map to the surface or draw it to scale.
3. Using small boxes, blocks, or folded cardboard, build a model of your community on the base sheet. Remove any old, unwanted buildings from your future community, if they could not serve a useful purpose. Add the four new structures discussed in Task 4: a shopping center, school, medical clinic, and teen center. Rearrange houses and public buildings, if necessary.
4. Paint and label the buildings.
5. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

Summary:

You have looked at some of the occupations of the public servants who work in your community. While the work modes they use are of interest, the skills and knowledge they have is most important. In exploratory courses, you may have opportunities to learn basic occupational knowledge and some related job skills. Meanwhile, the abilities to write, sketch, communicate with people, use tools and follow instructions provide a good foundation for many occupations.

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32 — Reviewing Public Service

Questions:

1. What job families are found in this cluster?
2. List some sample occupations related to this activity.
3. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.

ACTIVITY 33

REVIEWING COMMUNICATIONS

Occupations in the Communications Cluster deal with the areas of broadcasting, journalism, motion pictures, recording and so forth. Within each group, similar kinds of knowledge and understanding are needed. Some basic understanding of these skills can be gained while a person is still in school. In Activity 33, you will have an opportunity both to try out several work modes and to learn something about occupations in communications.

In Activity 32, your community printed a special newspaper on recreation as a public service. Now you will design some more public-relations materials to advertise the community's good points. Designing, organizing and presenting an idea graphically (with pictures) is common to many occupations in this cluster.

TASK 1 Relief Printing

Purpose:

To design and print posters that will advertise your community.

Steps:

1. There are several ways for you to advertise "the good life" found in your community. One part of such a campaign is the making and distribution of posters.
2. Draw several rough sketches of some poster ideas.
3. Select one to print.
4. Make a full-scale drawing of the sketch directly on the printmaking material. Linoleum block or strips of rubber tires may also be used. If necessary, draw a full-scale pattern first.
5. Cut the material so that the finished design is a raised surface. Whenever an image is carried on a raised surface, it is called *relief printing*.

- If you think that most people who make *motion pictures* work in Hollywood, you're wrong - the majority of motion-picture workers are employed by many different educational, industrial, and business companies.
- There are almost 5 times as many weekly *newspapers* as there are daily newspapers.
- There are about 40,000 *newspaper reporters* in the U.S. - four out of ten are women.
- There are 590 million telephone calls made in the United States every day, but only 250,000 *telephone operators* are employed to assist the automatic equipment.
- Half of the people working in *broadcasting* work for TV stations, even though there are ten times as many radio stations as there are TV stations.
- Although it is hard to get a job in the *recording industry*, employees are in the upper third of all pay levels.

6. In order to make the material easier to handle, attach it with glue to a piece of wood (or other stiff surface). Printmaking material has a sticky surface which can be exposed by peeling off the back layer of the covering.
7. Place a small amount of ink in an ink tray or on a smooth, hard surface, such as plaster, glass, or cardboard. Roll the ink out with a brayer, in order to coat the brayer surface very well.
8. Roll the brayer over the design surface to cover with ink.
9. Press paper onto the design and set it aside to dry. This process can be repeated until enough posters are printed.

10. Clean up.
11. Identify a course related to this task.

TASK 2 Picture Story

Purpose:

To make a "photography essay" about communities.

Steps:

1. A *photographic essay* states a personal point of view about a topic, using pictures instead of words.
2. For your essay, select a topic related to the community, such as:

   a. tradition or history
   b. recreation
   c. entertainment
   d. environment, or
   e. some special thing relating only to your community.

3. It may be helpful to do some reading about your topic before making a list of the kind of pictures it will take to express your point of view.
4. After listing the pictures needed, look through magazines and newspapers to find them. If a camera is available, you may also take pictures.
5. Arrange and then glue the pictures on poster board.
6. Share your photographic essay with the rest of the class.
7. Name a Scout merit badge related to this task.

TASK 3 Stencil Printing

Purpose:

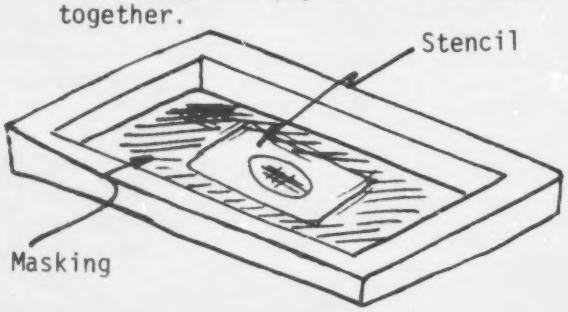
To make a print using the stencil method.

Steps:

1. The design from Task 1 may also be used in this task, or a new one may be selected. Make a sketch no larger than 8 1/2" x 11".
2. This design will be transferred to another surface, such as a T-shirt, by cutting a stencil and applying ink to the cut-out area.
3. Trace the design onto the paper (such as oaktag) from which the stencil is to be made.
4. To make the stencil, use an X-acto knife to cut the design

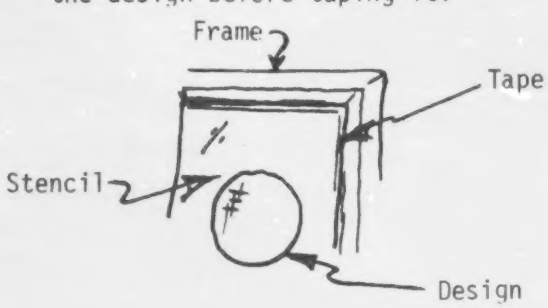
from the paper on a smooth, hard surface. This type of stencil is not recommended for designs which have loose centers, such as the inside of the letter "O". NOTE: Do not use tables for cutting. Use scrap wood, poster board, or a similar surface.

5. Once the stencil is ready, make a frame for it by cutting a rectangle slightly smaller than the stencil paper from the bottom of a shoe box. One could also be made by tacking four strips of plywood or cardboard together.

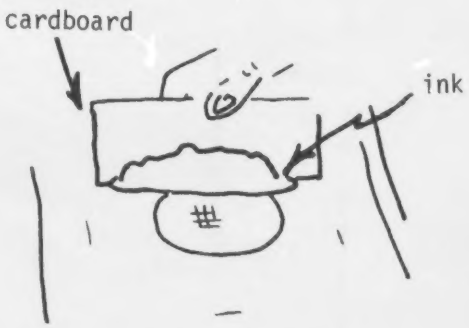


FRAMES

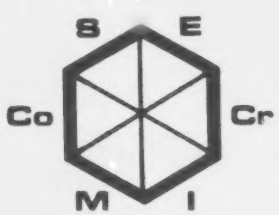
6. With masking tape, attach the the stencil to the back side of the frame, making sure to reverse the design before taping it.



7. Position the frame where the design is to be printed. Due to the rapid drying of water-based ink, the prints must be made quickly, one after the other.
8. Before printing the design on clothing, place a folded sheet of newspaper underneath the side to be printed, in order to prevent the ink from passing through to the other side. Be sure the surface is smooth, flat and free of wrinkles.
9. Place two spoonfuls of ink in the frame at the top of the design.



10. A tool with a rubber blade (such as a squeegee) or a piece of cardboard may be used to pull the ink across the design. Hold it at a slight angle, with firm, downward pressure.
11. Carefully lift the frame from the surface and repeat the process until all class members have made a print.
12. Remove the stencil from the frame and clean it and all tools with water.
13. To permanently set the ink in clothing, cover the design with a clean sheet of paper and rub with an iron at medium heat.
14. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.



33 — Reviewing Communications

Summary:

Classes in both Art and Industrial Arts can offer opportunities to learn more about communications, as well as develop some skills which are important to persons in this field. Classes in speech, journalism, and drama can also be useful.

The abilities to design, sketch, imagine, interpret, and express one's thoughts are basic to hobbies and occupations in the Communications Cluster. Usually there are related skills, such as the ability to work with materials like ink, clay, wood, or metal.

Occupations are found in the area of radio and TV broadcasting, journalism, motion pictures, recording, telephone and telegraph communication, and satellite and laser communication.

Questions:

1. What job families are found in this cluster?
2. List some sample occupations related to this activity.
3. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.

ACTIVITY 34

REVIEWING HEALTH

An assortment of occupations may work together toward a common goal. In the case of our environment, many people from all walks of life are concerned with its preservation. Many work in occupations obviously related to the Environment Cluster, while others not considered a part of that cluster have added their skills and knowledge to the effort. Workers in health occupations are a good example.

A good point in the favor of any community is a healthy environemnt in which to live. People usually seek a clean, quiet, attractive and healthy place to live.

In Activity 34, your community will examine the possibilities for a healthier environemnt in the future and will find ways of improving the health of its citizens.

Vocabulary Words

buffer monetary

TASK 1 Your Environment and the Law

Purpose:

To gather information about the environment and the health of your community.

Steps:

1. Call together the members of the Town Council for a meeting on the local environment. The Planning Commission will assist the Council by studying the conditions that now exist, including such things as pollution and conservation.
2. After the mayor calls the meeting to order, hear brief reports from the four committees of the Planning Commission on the work they did in Activity 15. Point out the ways each committee's work is related to

- Training requirements in health occupations vary from on-the-job training for hospital attendants and orderlies to ten years of more for doctors.
- People in the United States visit a physician on the average of five times a year.
- Nearly four million people worked in health-related occupations in 1972.
- Overall employment in the health field is expected to grow by 40 percent or more over the next ten years.
- About two out of every five persons in the U.S. need eye care.
- While three out of four doctors in the Soviet Union are women, only one out of fourteen doctors in the United States is a woman.

the environment and to the health of those who live in the community.

3. The Council meeting may be temporarily adjourned to allow each committee to meet and discuss a topic for study. There are several large areas of concern: air and water pollution, noise pollution, preservation of natural areas, and so on. When you consider how these subjects relate to your own community, more definite topics of study will become clear.

   For instance, industrial waste products pollute both our air and water; so do agricultural waste products. Yet city governments themselves have been accused of water pollution because of sewage disposal. The problem comes from many directions. Your community may have problems like these.

   Air pollution may be caused by leaf burning, chemical spraying, automobile exhausts, the production of electricity, and/or radioactive fallout. If a committee chooses to study air pollution in the community, they must try to locate all of the most important polluters. Next, they need to find out the federal, state, and local laws which relate to that pollution. These are the two most valuable ways of describing the existing situation to the town Council.

   Likewise, if a committee choses a topic such as the preservation of natural areas, they will also want to describe what conditions they find and name the laws that affect these areas in their community. These areas might include bike paths, riding trails, picnic areas, animal sanctuaries, arboretums, botanical gardens, campgrounds, or parks — all necessary for mental as well as physical health.

4. These are just a few examples of topics to study. Each committee will be responsible for making a presentation to the Council on a different area. This may include charts and other visual aids. After selecting one, make a list of people and places to check for information.
5. Call the Council together again and hear reports from each of the Planning Commission's committees on what they plan to do.
6. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

TASK 2 Environmental Planning

Purpose:

To suggest ways to further protect your community's environment and general health.

Steps:

1. Call the Town Council together to hear the presentations of the Planning Commission. The Council may wish to discuss and question the findings of each committee.
2. When it is clear to each Council member what the existing condition of the environment is in their community, discussion of new recommendations should follow. New committees may be formed, in each area of need, to draw up new ordinances or write recommendations.

   For example, a committee may be formed to write recommendations for noise control in the community. Noise pollution may come from aircraft, industry, highway traffic, crowded living conditions, and many other sources. If the community is rural, the residents may have trouble

with none of the above, except perhaps the noise of a turnpike that has been built over one edge of the county. At first glance, one might think there are no ordinances that a town could enact in order to help with this problem. Yet, the Council could consider the idea of planting trees to act as a buffer between the traffic and nearby residents. Zoning ordinances could be enacted to keep developers from constructing low-cost housing even nearer to the noise. With a bit of investigation, one may learn even better ways to help local residents.

3. Each new committee should also look at how much their suggested changes are going to cost. Often a program has all the support it needs, except for the monetary support which can make it happen. Estimate the costs and who might bear the expenses. The federal government has many programs dealing with pollution and recreation areas such as the National Forest.
4. Name a Scout merit badge related to this task.

TASK 3 Passing Ordinances

Purpose:

To enact certain ordinances concerning the local environment and community health.

Steps:

1. Call the Town Council together once again to vote on the recommendations of the Planning Commission.
2. There is a certain way of holding meetings that involves the customs and rules of *parliamentary procedure*. This means that all suggestions for action and general discussion are stated in a special way, according to a special order.

   A suggestion for action is called a *motion* ("I move that. . . ."), and it must be seconded, or approved, by one other person before discussion or voting ("I second the motion."). Without a second, the motion is lost.

   After a motion is properly made and seconded, the Mayor allows a fair amount of time for discussion. Then the Mayor reads the motion and calls for a vote.

   Most motions have to be approved by two-thirds of those voting in order to pass. If the "yes's" and "no's" are too close to call by voice vote, then the Mayor may ask members to vote by standing.

   A motion may be *amended* or changed ("I move that the motion by amended to read. . . .") by anyone, if the change is suggested during discussion and before the motion is called to a vote. The amendment must also be seconded and, after the discussion is complete it must be called to a vote before the original motion. An amendment only needs approval from one more than half of those voting (a *majority* vote).

   Once the amendment is accepted or refused, then the original motion is called to a vote. This is the only time that more than one motion may be considered at the same time.

3. In this Council meeting, use the rules of *parliamentary procedure* to vote on the recommendations of each Planning Commission committed.
4. Identify a course related to this task.

Summary:

Many persons are concerned with our environment and its relationship to health. While some are occupationally prepared to work in these clusters, there are others who add the support of widely varying skills and knowledge to improving health and environment. Almost any occupation can be of help, since it takes an individual appreciation of the problem to help in the first place.

There are a few secondary courses which deal with the environment or health. Agribusiness or agriculture offers preparation for these kinds of occupations. Agriculture especially focuses upon forestry, erosion control, landscaping and so forth. Health classes may study ecology, the effect of environment upon an individaul's health.

Questions:

1. What are some club or group activities in which you could participate for further experience in this cluster?
2. What job families are found in this cluster?
3. List some sample occupations related to this activity.

ACTIVITY 35

OPTIONAL: HEALTH

The health field includes several groups of occupations: mental health personnel, medical support personnel, pharmacists, health administrators, ambulance attendants, dental workers, medical office personnel and medical technicians. These important people work along side of those in the medical profession: nurses, medical doctors and so forth.

Many persons in this cluster develop the skill of working with people. Many are attracted to health occupations because they want to help others. Some, however, do not meet patients, but deal with the mechanical or business side of health care.

Because of fast growth within the Health Cluster, new products are being introduced to the field everyday. In Activity 35, you will try to persuade a group of hospital administrators to buy a health product you are selling.

TASK 1 Hospital Supply

Purpose:

To persuade hospital administrators to buy your product.

Steps:

1. Select three groups of three students each. Each group represents a different hospital supply company. All remaining students are hospital administrators.
2. In each group, there is a salesperson and two company consultants or advisors. Choose a name for each company.
3. Next, select a health product that you think you can sell to the hospital administrators. Give your product a name and then discuss how you are going to present it to the administrators. Make an outline of the "sales pitch" that will be used. In it, include a description of the product, the price (and any special bulk rates), and good reasons why the hospital should buy this from your company, and not from a competitor.
4. Gather together any props that will be needed in the presentation, including the product itself, pictures, and so forth. The salesperson will present his company's "sales pitch" using these materials in a presentation from five to ten minutes long.
5. After the presentation, the consultants will answer questions for five to seven minutes. Their job is to finish convincing the administrators of their product's worth.
6. After all groups have made their presentations, the hospital representatives will take a secret vote for the company that made the best "sales pitch."
7. Identify a course related to this task.

35 — Optional: Health

Summary:

Occupations in the Health Cluster require many different skills and persons who enjoy different work modes. The need for people to fill these jobs is forecasted to increase in the years ahead.

Many schools have courses in health which become job-oriented in high school, such as courses in vocational health occupations. Biology and science are very basic courses in preparation for a health career. Support services for the medical profession often demand a background in business or mathematics also.

Questions:

1. List several out-of-school experiences related to this cluster.
2. What are some club or group activities in which you could participate for further experience in this cluster?
3. What job families are found in this cluster?

ACTIVITY 36

REVIEWING ENVIRONMENT

"Environment Planning" and "Resource Control" are two groups of occupations in the Environment Cluster that are concerned with land use. In particular, persons in these occupations work to make an environment which is beneficial in many ways.

The role of plants and trees in preventing erosion, providing protection for animal life and giving shade and beauty is an important one. Many persons grow shrubs and ornamental trees as their work. Such people enjoy being out of doors and working with plants. Some nurseries specialize in certain plants. In colder climates, glass houses or greenhouses make it possible for plants to be grown year round.

In Activity 36, you will look at the different ways to affect your home environment by landscaping the lawn with trees, shrubs, and flowers.

Vocabulary Words

specialize landscape

TASK 1 Improving the Environment

Purpose:

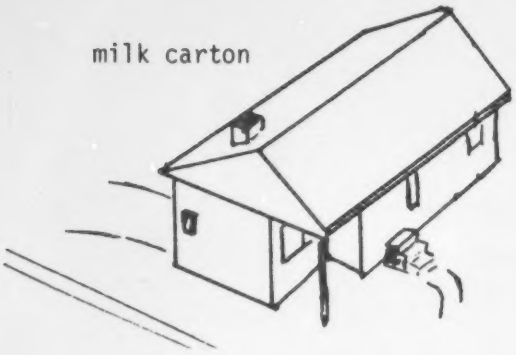
To improve the environment of a sample home by landscaping.

Steps:

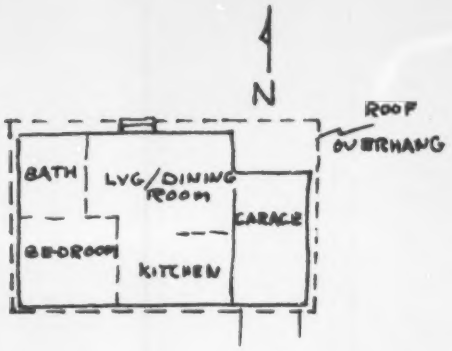
1. Obtain a piece of cardboard about 4" x 6" to represent a house, or use a milk carton to make a model. All houses are not shaped like rectangles. They may be L-shaped or patterned in any manner.
2. Obtain a piece of green-painted cardboard or styrofoam to represent the house's surroundings. Indicate the direction that the house faces (north, south, east, or west). Show

- Geologists, geophysicists, meteorologists, and oceanographers are all called *environmental scientists* because they help us understand and live within our physical environment.
- Employment opportunities for *soil conservationists* look good — a graduate in this field working for the federal government will earn about $8,000 the first year and $10,000 after one year.
- The people that watch out for the pollution of our environment are called *sanitarians* or environmentalists — they are the same people who check the cleanliness and safety of the food and beverages we eat.
- *Mineralogists* are geologists who study minerals and *volcanologists* are geologists who study volcanos, but *paleontologists* study fossils, not "paleontols".

where the rooms are located in the house so that shrubs will not be put where doors are. A sample house might look like this:



3. Use bits of sponge, dried grasses or twigs to landscape your plan.
4. What is a 4-H achievement related to this task?



TASK 2 Checklist

Purpose:

To discuss the good and bad points of your landscape design.

Steps:

1. Answer the following questions about your landscape plan:
   a. Did you remember space for walkways, sidewalks, and parking space, if needed?

      Yes_____ No _____

   b. Did you try to screen your property from noise, road dust, and the view of other people?

      Yes_____ No _____

   c. Is it always necessary to screen your property?

      Yes_____ No _____

   d. Did you leave room in the yard for outdoor recreation (badminton, horseshoes, basketball, volleyball, swimming, etc.)?

      Yes_____ No _____

   e. Did you add trees to make shaded areas?

      Yes_____ No _____

   f. Do you want to shade the house in the summer time to cut air-conditioning costs?

      Yes_____ No _____

   g. Do you want windbreaks to cut down heating cost in the winter?

      Yes_____ No _____

   h. Did you select plants and trees that will improve the looks of your property?

      Yes_____ No _____

   i. Did your landscape plan make the house more valuable?

      Yes_____ No _____

   j. Did you use different types of trees, shrubs, and flowers in your plan?

      Yes_____ No _____

   k. Will the plants that you chose

grow well in this section of the country?

Yes_____ No _____

1. How can you find information to answer the last question?

_____

_____

m. Do you have a theme (such as a Japanese garden) or does it display many different kinds of plants? _____

_____

_____

n. Would you like to live in a house with this kind of landscape plan?

Yes_____ No _____

2. Identify a course related to this task.

Summary:

Proper landscaping can save money that would be spent on heating and cooling homes. It can mean helpful shaded areas or trees for windbreak. It can also help the environment in many ways, such as providing shelter for wildlife.

A clean, balanced environment adds to the attractiveness of any community. Well-landscaped public buildings, parks, and private homes are pleasing to live and work around.

Persons whose jobs are related to these kinds of activities include those who design and care for parks, forest rangers, landscapers, nurserymen, city planners, horticulturists and others.

Questions:

1. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.
2. List several out-of-school experiences related to this cluster.
3. What are some club or group activities in which you could participate for further experience in this cluster?

Activity 37

Reviewing Agribusiness and Natural Resources

Many agribusiness occupations deal with our environment - directly or indirectly. Erosion control is one area. Research is done with different grasses in order to find the ones with the larger root systems that can keep the earth from being washed away. Research workers in others areas include plant ecologists, biologists, geologists, and entomologists.

In Activity 37, you will undertake a typical experiment to show the holding power of grasses by using soil found in your own community.

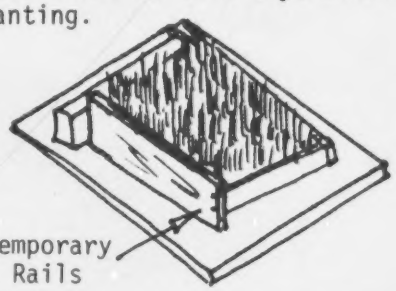
TASK 1 Seeding

Purpose:

To grow sample stands of rye grass.

Steps:

1. Form groups of four students each.
2. Each group will be given two pieces of plywood or deep pans.
3. Place moist topsoil on each board, making a layer about two inches thick.
4. Sprinkle rye grass seed on top of the soil. Sow only *one* board in each group.
5. Sprinkle a thin layer of soil over the planted seeds — just barely enough to cover them.
6. Firm the soil on each board by pressing lightly with hands or patting with a small flat object.
7. Write the names of all students in the group, and the date sown, on the corner of each board.
8. Place the boards planted with rye grass in a warm, well-lighted area. Keep damp.
9. Place the boards not planted with grass seed in a cool, dark area. This should limit the germination of wild seeds already present in the soil.
10. When the rye grass has germinated, water lightly enough to keep the grass growing. Germination should occur three to five days after planting.



- Employment on U.S. farms has declined from 7.2 million in 1950 to 3.4 million in 1972, and it is expected to be only 1.9 million by the mid-1980's.
- A corn farmer may need to cultivate 600 to 1000 acres to earn a living today, but his or her father could only till around 320 acres and grandfather, 120 acres.
- In 1910, it took a person 135 hours of labor to grow 100 bushels of corn, but today's modern farmer takes seven hours of labor to grow the same 100 bushels.
- The average value of a commercial farm is $46,000 in the Appalachian Mountain region and $300,000 in the Pacific region.

11. When the grass is two to three inches in height, you are ready for Task 2.
12. Identify a course related to this task.

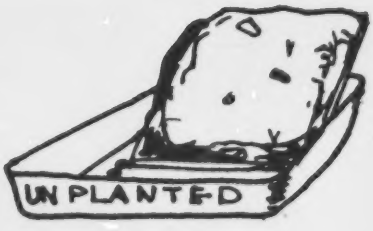
TASK 2 Soil Erosion

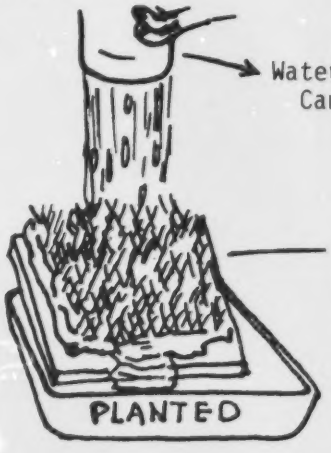
Purpose:

To compare the two soil samples for erosion.

Steps:

1. Each group of students will have one board with a stand of rye grass and one board without a stand of rye grass.
2. Place one end of the board of grass in a pan. Raise the other end of the board about two inches higher.
3. Punch small nail holes in the bottom of a can or carton. Use it to sprinkle water over the seeds.
4. Notice the results. Look at the water in the pan.
5. Next, sprinkle the unplanted board and observe what happens.
6. Write your observations on paper. Compare what happened in the two pans by noting what the water did to the soil.
7. Clip the grass even with the soil and repeat steps 3 and 4.
8. Notice what happened to the soil in each pan this time. Write your observations on paper.
9. This process of water wearing away soil is called *soil erosion*. Each group should share with the class what they have observed about erosion.
10. What is a 4-H achievement related to this task?





TASK 3 (Optional) More Soil Erosion

Purpose:

To compare a sample of bare soil with a sample of soil and gravel.

Steps:

1. Take two pieces of plywood covered with a layer of soil 2" thick. Sprinkle a cup of gravel over the soil of one board until the soil is covered.
2. Sprinkle water over both boards, as you did in Task 2.
3. Observe how the water running over gravel effects the soil this time.
4. Name a Scout merit badge related to this task.

Summary:

Many of the occupations in the Agribusiness and Natural Resources Cluster demand at least a basic understanding of biology and science. Later, courses in agriculture may be helpful. After high school, work in agriculture-related businesses and/or further study may advance a person's goals in this career area.

Questions:

1. What are some club or group activities in which you could participate for further experience in this cluster?
2. What job families are found in this cluster?
3. List some sample occupations related to this activity.

Activity 38

Reviewing Marine Science

Most of those who work in the Marine Science Cluster are fishermen who sail coastal waters. There are others, however, that are concerned with protecting fishing grounds, breeding marine life and supporting those fishermen.

Divers, fish culturists, marine engineers, laboratory testers, and marine biologists all contribute to the cultivation and harvesting of food and minerals from fresh and salt waters. Your community's water resources may be of interest to marine scientists.

TASK 1 Daily Readings

Purpose:

To record certain information about air and water temperature.

Steps:

1. Select a body of water at least 18" deep to do this task.
2. Choose a partner and then obtain a thermometer, string, pencil and paper.
3. Make a chart with the following headings: *air temperature, water temperature, cloud cover, and surface conditions.* Each of these readings must be taken twice daily for one week. See Chart A.
4. Take turns doing the readings and recording them on the chart. To record cloud cover, use the letters NC (no clouds), PC (partly cloudy),

Chart A

Daily Readings
10/4/76 - 10/10/76
8:00 am - 4:30 pm
Johnny Daye River

	10/4/76	10/5/76	10/6/76	10/7/76	10/8/76	10/9/76	10/10/76
Air Temp.	44° - 30°	43° - 26°	45° - 28°				
Water Temp.	36° - 34°	30° - 35°	32° - 36°				
Cloud Cover	NC NC	PC C	NC PC				
Surface Conditions	— ~~~	~~~ ~~~	~~~ —				

- The deepest part of the ocean is about 7 miles deep, but *marine geologists* and *cartographers* (map makers) have maps of the ocean bottom almost as accurate as dry land maps.
- A *bathyscaph* is a type of underwater vessel that can dive six miles deep into the ocean.
- The greatest depth any *skin diver* has reached without air tanks is 240 feet.
- The greatest depth a *scuba diver* has reached with air tanks is about 300 feet.
- More than 100 billion pounds of fish are caught each year.

or C (cloudy). To record the surface conditions of the water, use these symbols:
smooth — ——
choppy — ~~~
rough — ~~~

5. To take a reading of the water temperature, tie a thermometer to a string and hold it at least a foot below the water for about three minutes.
6. For your own protection, observe all rules of safety.
7. Name a Scout merit badge related to this task.

SAFETY

1) STAY ON SHORE
2) NEVER GO ALONE
3) GIVE YOUR SCHEDULE TO SOMEONE BEFORE GOING

TASK 2 Showing Relationships Through A Graph

Purpose:

To make a graph showing changes in water and air temperatures.

Steps:

1. When the readings in Task 1 have been collected for a full week, the same information may be used to make a graph in Task 2.
2. Draw an air/water temperature chart, such as the one shown below.

	Day 1		Day 2		Day 3	
	AM	PM	AM	PM	AM	PM
Degrees 90						
80						
70						
60						
50						
40						
30						
20						
10						
0						
-10						

   a. Place degrees along one edge of the chart.
   b. Divide the top line of the chart into days, a.m. and p.m.
   c. Make as many columns as the number of days you collected readings.

3. When completed, this chart will show a comparison of water temperature to air temperature for each day.
   a. First, place a dot next to the correct air-temperature reading for each day and time. When there is a dot for each reading, take a ruler and connect each dot with a solid line.
   b. Do the same for each water-temperature reading. Connect these dots with a broken line or a line of a different color.
   c. Label each line.
4. Display your chart and share any observations you can make on the relationship of the two readings.
5. Color the Mode Pie so that it represents the work mode(s) you experienced in this task.

Summary:

Biology is an excellent beginning for those who are interested in following a career in marine science. Although few courses related to marine science are found in secondary schools, a course in agriculture could include fish farming. Community colleges sometimes have courses in marine science.

Questions:

1. List some sample occupations related to this activity.
2. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.
3. List several out-of-school experiences related to this cluster.

ACTIVITY 39

OPTIONAL: MARINE SCIENCE

Water supports life. Much of our food comes from our lakes and streams, as well as from the oceans. While we are all familiar with fish as a food, fewer people are aware of the use of algae as food.

It has been found that algun, a chemical obtained from algae, can be used in ice cream, salad dressings and other products. Some marine science occupations deal with many kinds of algae.

This activity will show you a way to catch algae and examine these microscopic animals for yourself.

Vocabulary Words

current microscopic

TASK 1 Plankton Net

Purpose:

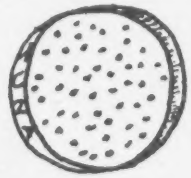
To construct a net for catching plankton.

Steps:

1. Plankton is the name given to the many, tiny animals and plants that float or drift in ponds and streams. Larger animals, expecially fish, depend on plankton as a source of food. It also helps balance the level of oxygen in water.

   Fine mesh nets can be used to bring up this microscopic animal and plant life. Certain kinds of plankton, called *algae*, are harvested for a chemical used in the manufacture of ice cream, salad dressing, and other products.
2. To make your own plankton net, place an empty tuna can, bottom down, on a flat, wooden surface (*not* your desk).

3. Drive a nail through the bottom of the can until it looks like this:

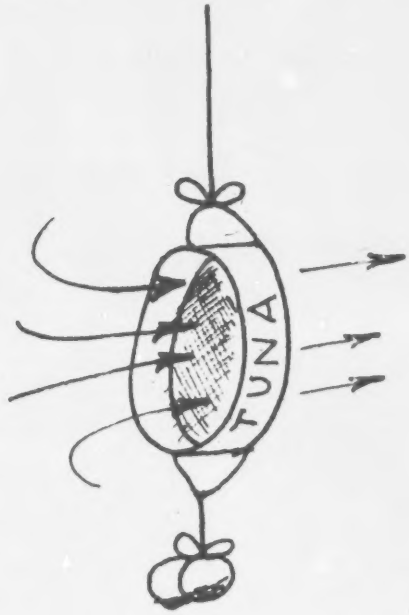


4. Using about one foot of string, tie one end around a weight, such as a small stone.

5. Put the other end through a hole and tie it around one edge of the can.

6. Tie the remaining string around the opposite side of the can. The net should now look like this:

7. Place a gauze patch in the bottom of the can, covering the holes. This will catch the plankton, as water passes through the gauze.



8. Name a Scout merit badge related to this task.

TASK 2 Plankton Samples

Purpose:

To catch and examine plankton samples.

Steps:

1. Place the plankton net constructed in Task 1 into a pond or a body of water with current, such as a creek or river.

SAFETY

BRING A PARTNER
TELL YOUR PARENTS WHERE YOU ARE GOING!

STAY ON SHORE

2. Tie your net in place and leave it for at least 3 days. During this time, water should be passing through the gauze.
3. After several days, bring up the net and remove the gauze. The plankton will be found as a brown, green, or yellow-green slime clinging to the gauze. Place it all in a container and take it to school.
4. Scrape the slime from the gauze and put a small smear on a glass slide. Put the slide under a microscope.

   You may see many small creatures which look like this:

5. Identify a course related to this task.

Summary:

Since water is as important as it is, many occupations are related to it. In the Marine Science Cluster, there are oceonographers and marine biologists who do special research. There are military persons, such as navy seamen, for whom the sea is a regular part of their work environment. There are mining engineers, vessel operators, divers, and marine architects, all dealing with life on and beneath the seas. Many others have responsibilities related to clean water, flood control, fishing and so forth.

Cities beneath the sea are a possibility in the future. To prepare for careers that will research and work in such areas, biology, science, and some areas of vocational education offer the basic knowledge and skills with which to start exploring the possibilities in marine science.

Questions:

1. List several out-of-school experiences related to this cluster.
2. What are some club or group activities in which you could participate for further experience in this cluster?
3. What job families are found in this cluster?

Activity 40

Reviewing Hospitality and Recreation

Many persons are concerned with entertainment and tourism. More leisure time has resulted in greater recreational needs. This includes a greater need for travel bureau personnel and other persons who are concerned with tourist comfort during travel. Occupations related to sports, entertainment, and amusement are also in greater demand.

Sports spectators, tourists, and others who use recreational facilities require the services of many different workers to insure their comfort and pleasure. In Activity 40, you will have a chance to find out just how many different people are needed in a common recreational facility.

Vocabulary Words

picturesque	facilities
accommodations	spectator

TASK 1 Recreation Park

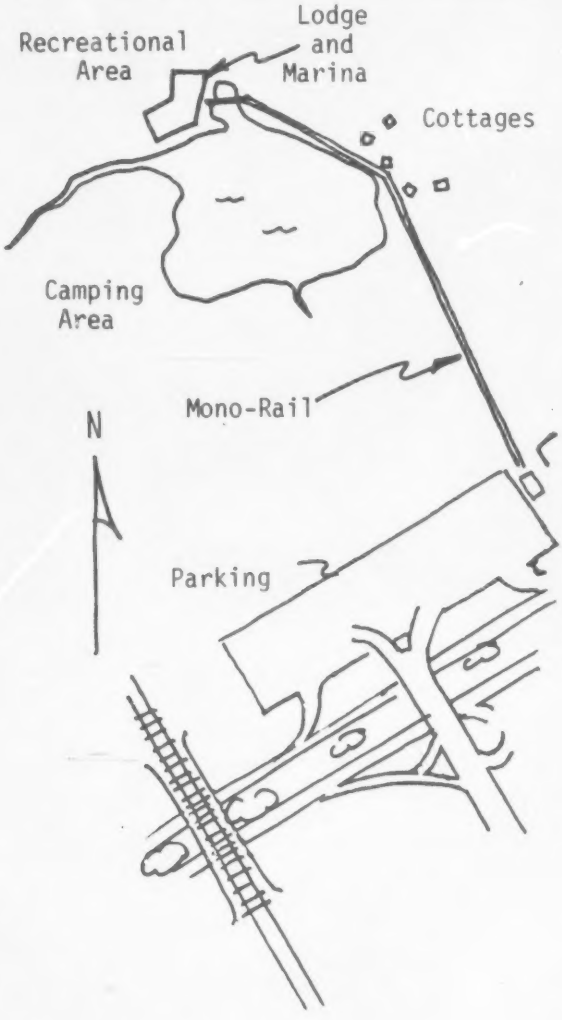
Purpose:

To plan a community recreation park.

Steps:

1. Your state has decided to plan a recreation park — 5,000 acres of undeveloped, picturesque mountain land in the western part of the state. Steps to protect the environment will be taken during development. Already, professional planners have met and have made recommendations for the area. See the map on page 208.

- Employment opportunities for *hotel front office clerks* are expected to increase by more than 40 percent over the next ten years.
- More than 110,000 *managers* work in hotels and motels, and 40,000 of these are self-employed at their own hotel or motel.
- Of the 55,000 *recreation workers* employed in 1972, more than half were women.
- In addition to the 55,000 full time *recreation workers* employed that year, there were 120,000 others working part time in the summer months.
- There are very few educational requirements for becoming a non-managerial *hotel worker*, but the pay is only half of what an industrial worker makes.
- In 1975, there were about one and one half times as many *white collar workers* as *blue collar workers* in all areas of employment.



2. Form five different committees to consider the planners' recommendations. Keep the map in mind while making decisions in the five areas of housing, traffic, recreation, food services, and other services.

   a. *Housing Committee* - responsible for overnight lodging accommodations, cottages and a campground, which means choosing the location, the style and size of buildings, and the design of the campground facilities.
   b. *Traffic Committee* - responsible for automobile and pedestrian needs. Train and bus stations are in a nearby town, while a major airport is 40 miles away. Conserve as much of nature as possible when deciding the location and necessary details for the following traffic areas: roadways, walkways, hiking trails, parking lots, and minibus service within the park.
   c. *Recreation Committee* - responsible for designing and deciding the necessary details in the location of the following recreation areas: golf (championship course, par - 3, or miniature, swimming, horseback riding, tennis, fishing, crafts, nature programs, and special events, such as plays, concerts, and religious programs.
   d. *Food Service Committee* - responsible for different types of food service and their general operating needs: dining rooms, a cafeteria, a lounge, a snack shop, and vending machines.
   e. *Services Committee* - responsible for locating shops and services throughout the park: a campstore, a beauty shop, a gift shop, a craft shop, a laundromat, or an art gallery.

3. A spokesman from each committee may share the group's planning with the class. Discuss suggestions from other class members.
4. Identify a course related to this task.

TASK 2 Park Personnel

Purpose:

T determine the number and kind of e ployees needed to run the park.

Steps:

1. Each committee should make a list of the separate buildings for which they are responsible.
2. Make a list of all the positions

that will be filled by the committee when the park is in operation.
3. Name the cluster and work mode related to each occupation.
4. Color the mode pie so that it represents the work mode(s) you experienced in this task.

Summary:

Many different people are employed in the Hospitality and Recreation Cluster. For a person who wants to be a professional athlete, physical education and subjects which encourage quick thinking are good experiences. Business, speech, mathematics, and other courses offer a good start for someone interested in the work of a travel agent.

In choosing an area of interest to follow, it is probably wise to read more about all of the choices and then have a chat with your teacher or guidance counselor. They can advise you on the best courses to take.

Questions:

1. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.
2. List several out-of-school experiences related to this cluster.
3. What are some club or group activities in which you could participate for further experience in this cluster?

Activity 41

Reviewing Fine Arts and Humanities

Job families in the Fine Arts and Humanities Cluster include visual arts, performing arts, writing, religion and theology, languages and linguistics, and occupations related to history and museums. Architecture is sometimes considered a part of the Fine Arts Cluster also.

Persons who work in these areas are concerned with expression, creativity, and communication of deep personal feelings. The job families are roughly grouped according to the way this communication is presented: through illustration, performance, writing, religion, verbal skills, or records of the past.

In Activity 41, you will have an opportunity to express yourself with a handmade craft. This kind of art shows the individual artist's special touches. Crafts are often useable objects, as you will see in this activity when you make items that may be sold at the new park's craft shop.

Vocabulary Words

quill barb coil

TASK 1 Fishing Flies

Purpose:

To make handcrafted fishing flies.

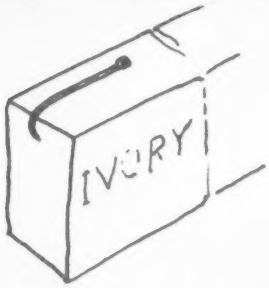
Steps:

1. Most of the tools and materials needed for fly tying are easy to obtain. Once you have learned the basic skill, you can become very creative and tie new patterns. Not having to depend on the tackle shop, you can save money and perhaps turn a good hobby into a profitable business.
2. One type of fly is used for

- Only about 4,000 *dancers* are employed in the U.S. and, like professional athletes, few dancers actually perform after the age of thirty.
- Because most performing *musicians* do not work for only one employer, many do not qualify for unemployment insurance if they lose their job, and few musicians have either sick leave or vacations with pay.
- About 60,000 people were employed as *commercial artists* (in 1972), and 25,000 of them were women.
- About 32,000 licensed *architects* were employed in 1972, but to qualify for a license they had to have at least four years of college and three more years of work experience. Then, if they pass an exam that lasts 2 days, they can receive a license.

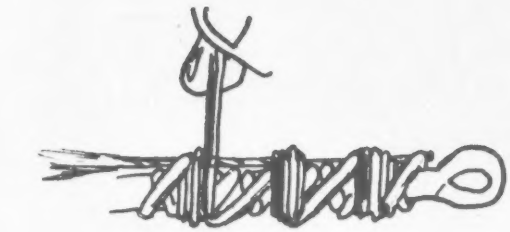
freshwater fishing in places like the park's river. It is called the *woolly worm* and it is good for catching walleyed pike, bass, and trout.

3. Take a fish hook (size 4 to 12) and thoroughly secure it in the edge of a bar of soap (or use a vise, if one is available).

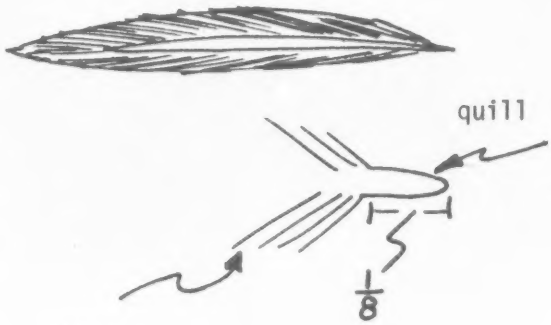


4. Wrap a piece of tying thread around the hook, starting near the eye, working toward the bend and back again.

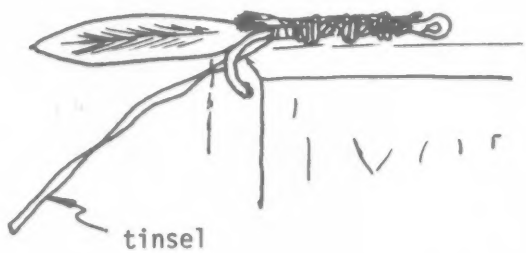
5. To make a tail for the hook, take a piece of red wool yarn and lay it over the tying thread. Secure it with a few well-spaced coils of the tying thread around the hook, from the eye to the bend.



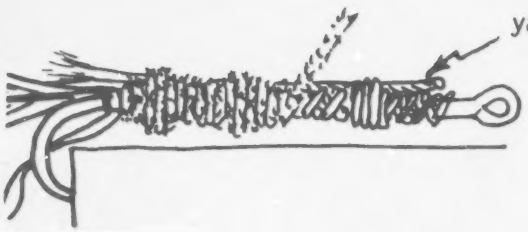
6. Cut off the base of a large feather and strip away enough barbs from it to expose 1/8" of the quill.



7. Tie the bare quill to the hook with about two tight turns of the thread near the bend. Add a piece of flat tinsel about 3" long with another two turns.



8. Prepare a piece of black chenille, which is a fluffy, velvety yarn, by scraping off about 1/4" of fuzz and exposing the thread core. Tie this bare core to the hook at the bend with tying thread. Wind this tying thread to the eye of the hook. Then wrap chenille in tight coils to the eye. Tie. (See illustration next page.)



9. Next, wrap tinsel over the chenille and tie.
10. Finally, grasp the tip of the feather with a clothespin and wind the feather around the body, letting each turn follow the tinsel. Tie at the hook's eye.
11. Work a drop of cement into the materials at the point of tying and complete the fly with a neat cemented head.

12. Name a Scout merit badge related to this task.

For More Information:

Bates, Joseph D. Fishing, Sunrise Books, N.Y.
Parsons, P. Allen Outdoor Life, Complete Book of Fresh Water Fishing, Harper and Row, N.Y. 1963.

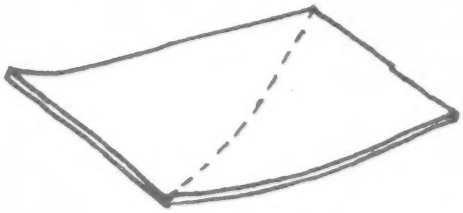
TASK 2 Candle Craft

Purpose:

To make beeswax candles.

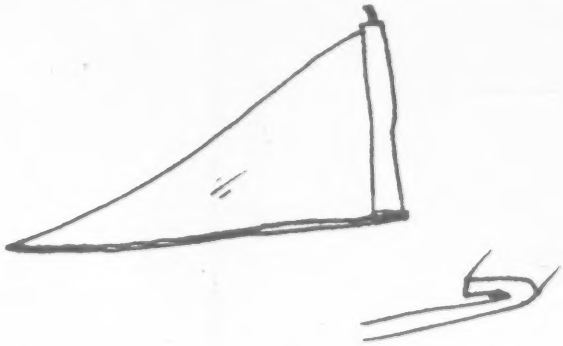
Steps:

1. Cut a rectangular sheet of beeswax into two triangles.



2. Measure the short side of the triangle, and then cut two pieces of candle wicking to measure 1" longer.

3. Position a piece of wicking on the short side of the triangle, with the end of the wicking and the bottom of the triangle being even.



4. Fold the edge of the beeswax over the wicking and carefully roll the beeswax to form a candle. Keep the bottom edge even. The candle should now look like this:

5. Identify a course related to this task.

41 - Reviewing Fine Arts and Humanities

Summary:

Opportunities to express yourself in school are plentiful. Art and graphic arts courses offer try-out experiences in visual communication. Drama and music offer performing arts experiences. Creative writing, drafting, industrial arts, and other courses encourage creativity while developing the basic skills needed. Similar experiences can also be found outside of school.

Questions:

1. What job families are found in this cluster?
2. List some sample occupations related to this activity.
3. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.

ACTIVITY 42

REVIEWING MARKETING AND DISTRIBUTION

Making products to sell and arriving at the "right" price are only part of a successful business. An attractive presentation of the product is equally important. Those who are concerned with packaging, displaying, selling, and distributing a product are part of the Marketing and Distribution Cluster. Such occupations as customer service, advertising, market research, and handling goods are typical of many found in this cluster.

In Activity 42, you will try your hand at making a sales display, perhaps using the crafts you made in Activity 41.

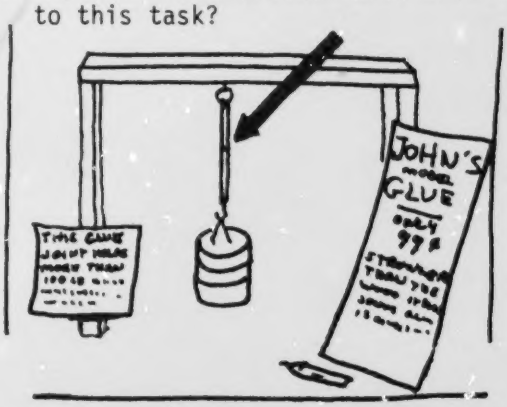
TASK 1 Sales Display

Purpose:

To make an attractive sales display of craft items.

Steps:

1. Form groups of four or five people. Choose several items to be the focus of a sales display. Discuss the different themes that you might use in order to present the right background for the items you want to sell.
2. Choose one of these ideas and make a list of the materials needed to set up the display.
3. Let each group member be responsible for certain items to bring and/or tasks to do in arranging the display.
4. What is a 4-H achievement related to this task?



- Close to six million people work in *sales occupations*.
- Of the 435,000 people who work as gasoline *service-station attendants*, more than one-third work part time.
- Some well-established and highly successful *insurance agents* earn more than $30,000 a year.
- There are three types of *models*: fashion models who work in front of an audience, informal models who work in department stores or at trade shows, and photographic models who pose for photographs with a particular product.
- There are twice as many people working in *service-producing* industries as in *goods-producing* industries, and this has been true since the late 1940's.

TASK 2 Rating the Display

Purpose:

To judge the overall effect of the displays.

Steps:

1. Each group will need to make a chart such as the one below to judge their display. The higher the number checked, the higher the rating is.

Check Sheet

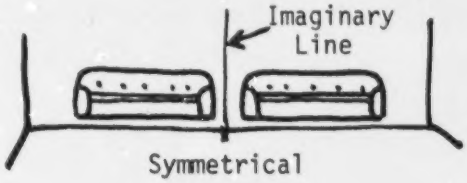
	1	2	3	4	5
Composition					
Balance					
Color					
Proportion					

Comments:

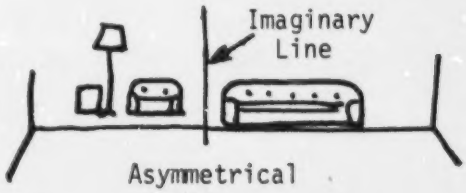
2. Read the following information before marking the sheet:

Composition - The overall picture should be pleasing and well-arranged. The more pleasing the overall effect of the display is, the higher the rating that should be checked.

Balance - Objects which appear lighter and thinner should be placed near the top of the display, while the heavier, bulkier ones should go near the bottom. The display should also be balanced from side to side. There are two kinds of balance. One kind of balance is called *symmetrical*, because there is a similar arrangement of objects on either side of an imaginary center line. The other kind of arrangement is called *asymmetrical*, because the balance is found by varying the size and heaviness of objects on either side of the imaginary line. A thinner, smaller object may be balanced because of the special position of a heavier, bigger one on the other side.



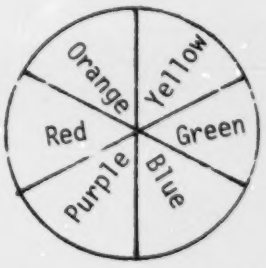
Symmetrical



Asymmetrical

Color - Color can be used for many kinds of effects. Dark colors make objects or spaces seem smaller, while light colors do the opposite. Bright colors suggest a happy atmosphere, while dark ones are more sober and serious. Pastel colors (pink, pale blue, pale green, yellow, beige) may seem feminine or light. Brown, black, grey and dark green may seem masculine. Some colors blend with certain colors better than with others. An example is the colors that are close to each other on the color wheel. Those that are opposite each other give a bold effect. Therefore, your colors will depend upon what kind of atmosphere you want to create, as well as the kind of materials used.

Color Wheel



The primary colors are yellow, blue, and red.

The secondary colors are green, orange and purple.

Proportion - The relationship of all parts of the display to other parts is proportion. Here are some questions to help you judge proportion:

a. Do the objects and the space they fill come together in a pleasing way?
b. Is any one part of the display too large or too small for the other items in it?
c. Is the display area crowded with too many things?

3. Let each group tally its own sheet and report the results to the rest of the class.
4. Identify a course related to this task.

Summary:

Art courses provide an excellent first-step for those interested in the Marketing and Disbribution Cluster. Mathematics is also helpful. Once in high school, "distributive education" can prepare a person for related occupations right after high school. Community college courses also offer preparation for marketing and distribution occupations.

Questions:

1. List some sample occupations related to this activity.
2. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.
3. List several out-of-school experiences related to this cluster.

Activity 43

Reviewing Personal Services

There will be food service areas in the new state park planned in Activity 39. A snack bar, coffee shop and dining room are usually located within a main lodge area. Smaller lodges or recreation centers may have dining rooms or cafeterias. Each service requires people to manage the operation, prepare the food, serve the food, clean and set the table, wash dishes, etc.

These occupations are part of the Personal Services Cluster. Other examples include cleaners, child-care attendants, maids, barbers, yardkeepers, baggagemen, guides, bakers, and hair stylists.

Activity 43 will give some practice in the tasks that you would perform as a food service worker.

Vocabulary Words

utensil

variation

TASK 1 Setting Tables

Purpose:

To learn the standard way of setting a table.

Steps:

1. Dishes and eating utensils are usually arranged in a standard way. See the sketch on page 220. The salad fork is laid outside of the dinner fork, because the salad is served first. The knife and spoon go to the right of the plate, with a water glass set near the end of the knife. The bread and butter plate is set near the end of the forks. The salad bowl and napkin go to the left of the plate, while the cup and saucer go to the right.

- A student in *barber* training school usually attends classes for six to eleven months and receives one to two thousand hours of instruction.
- About 870,000 *cooks and chefs* were employed in 1972, and 40 percent were women.
- Of the 160,000 *barbers* working in the U.S., half of them operate their own businesses.
- *Barbers* not only used to cut hair, they also pulled teeth and did small surgery, up until a hundred years ago.
- About 2,300 public and private schools are certified to offer training for *cosmetology licensing.*
- Although there were 26,000 *veterinarians* in 1972, there were only 18 colleges of veterinary medicine in the U.S. This causes fierce competition to become a vet.

2. Although this is the formal way of arranging a table, you may notice other variations in use at different restaurants. Often left-handed customers will arrange the setting.
3. Color the Mode Pie so that it represents the work mode(s) you experienced in this task.

TASK 2 Role-playing a Restaurant Scene

Purpose:

To play the role of a waiter or waitress and take a customer's order.

Steps:

1. Choose a partner and decide your roles. One person will play the waiter or waitress, while the other plays the customer.
2. The waiter/waitress greets the customer pleasantly and hands the menu to him or her.
3. Allow the customer time to look over the menu and then ask if he or she is ready to order.
4. Record each item carefully. Make suggestions if the customer seems undecided.
5. When the order is complete, it is helpful to repeat it, so that the customer is sure you have written it down correctly.
6. While the customer is eating, tally the bill and then add 4% sales tax. This is done by multiplying .04 times the total bill. Round off the number to whole pennies, if necessary.

Example:

Food	$2.50	Total	$5.75
	2.50		x.04
Beverage	.30	Sales Tax	$.2300
	.45		
Total	$5.75		

7. When the tax has been figured, add it to the total bill and present it to the customer.
8. Now the customer will figure out how much money to leave for a tip. Fifteen percent is often considered a standard amount to leave. Figure 15% of the bill by multiplying .15 times the total. Round off the number to whole pennies, if necessary.

Example:

Subtotal	$5.75	Total	$5.98
Tax	.23		x.15
Total	$5.98		2490
			598
			.8470
		Tip =	$ .85

10. Identify a course related to this task.

Summary:

The Personal Services Cluster includes a variety of workers. Some jobs require very little training (such as maid or dishwasher), while others such as wine steward or head waiter demand very special training. Many of these occupations offer both part-time and full-time employment.

Home economics courses are a good introduction to the field. Later, vocational courses and part-time work can give you an even better understanding of the possibilities which exist in Personal Services.

Questions:

1. What job families are found in this cluster?
2. List some sample occupations related to this activity.
3. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.

Activity 44

Reviewing Consumer and Homemaking

Among the job families of the Consumer and Homemaking Cluster are Food, Housing and Household Equipment, Textiles and Clothing, Family Economics and Home Management, Family Relations and Child Development, and Extension Services. Extension agents are usually employed jointly by land-grant universities and a local government.

These people educate homemakers and youth in various subject areas related to the other job families. A common skill taught by an extension agent is clothing care. In Activity 44, you will learn some basic information that an extension agent might share with beginning sewers.

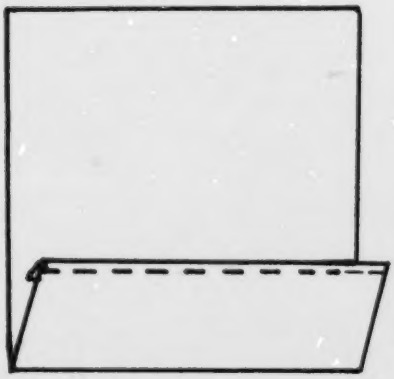
TASK 1 Hemming

Purpose:

To learn a method of hemming that can be used on pants and skirts.

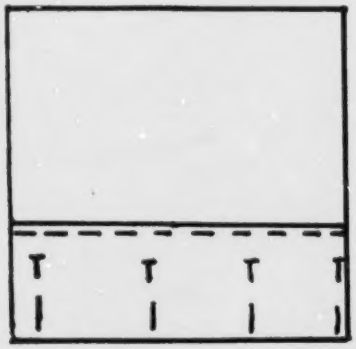
Steps:

1. Divide your class into groups of two. One person will do the hemming while the other watches and helps. When the first person is finished, reverse roles so that each person has a turn.
2. Obtain a piece of fabric which can be hemmed. Fold it so that 1/4" of the raw edge is turned under. Turn under 2" more to make a hem that is ready to stitch.

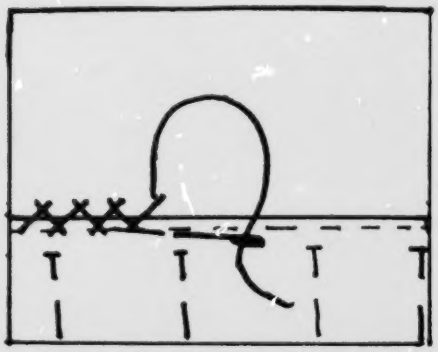


3. Pin the hem in place as the illustration on page 224.

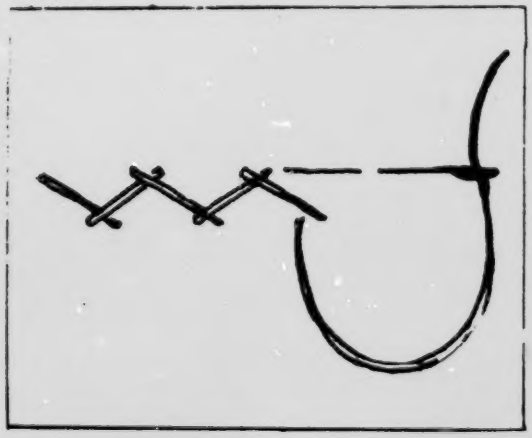
- Of the 120,000 people working in the home economics profession in 1972, over 70,000 were teachers, 5,000 worked for private business, and the rest worked for state and local government agencies.
- Extension services employed more than 15,000 people in 1972, and most held a college degree.
- An *American family* of four eats about 2½ tons of food a year.
- About 33,000 people worked as *dietitians* in 1972. Most of them were women and their average pay was well over $10,000 a year.
- Employment of *food scientists* is expected to increase by half before the year 1985.
- Approximately one out of every three workers in the *apparel industry* works in either New York or Pennsylvania.



4. Thread a needle and insert it in the fabric above the hem. Make a small, slanted stitch from right to left, as the illustration shows, so that all layers of fabric are caught by the thread.



5. Make a similar slanted stitch from left to right so that the threads now cross. This is called a *catch stitch*.
6. Continue this way until the hem is complete.
7. Identify a course related to this task.



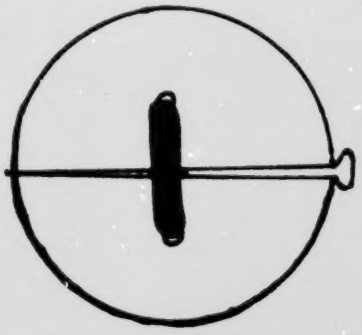
TASK 2 Sewing on Buttons

Purpose:

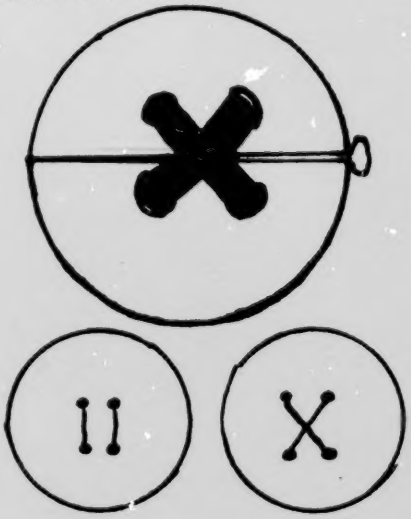
To learn a good method for sewing on buttons.

Steps:

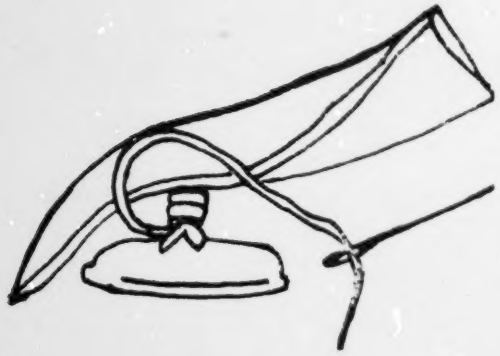
1. Each person should obtain a small piece of fabric and fold it in half.
2. Choose a location for the button and thread a needle.
3. In order for the button to lay flat wnen it is fastened, it must be sewn on rather loosely. To make a space between the button and the fabric, lay a pin on top of the button. This method is particularly good to use when working with bulky fabrics.



4. Sew the button in place with simple up-over-down stitches, as the illustrations show.



5. Carefully remove the pin by sliding it out.
6. Next, pull gently on the button to slightly separate it from the fabric. Wrap the needle and thread four times around the thread between the fabric and the button.



7. Push needle back through fabric to wrong side and tie in place.
8. Name a Scout merit badge related to this task.

TASK 3 Dry Cleaning

Purpose:

To learn how to use dry cleaning solvent for removing spots.

Steps:

1. Obtain several pieces of fabric that are soiled and some dry cleaning solvent. A solvent is something that can dissolve other substances.
2. Apply a small amount of the solvent to the soiled spots and allow the fabrics to dry. Solvents can affect fabrics in different ways. It is a good idea to test a small area of the garment where it doesn't show before cleaning.
3. The dried solvent and soil may now be removed by brushing.
4. What effect does the solvent have on the different kinds of fabrics?
5. What effect does the brushing have on various fabric surfaces?
6. What is a 4-H achievement related to this task?

Summary:

Research, consulting, and journalism occupations are found within each of the job families of the Consumer and Homemaking Cluster. Extension services employ many others. While home economics represents a logical first step in entering these careers, many skills learned at home are also valuable. Many experiences in Scouts, 4-H, and other organizations offer more try-out opportunities [see appendix]. Since every locality has extension agents, they are good sources of information on this cluster.

Questions:

1. What job families are found in this cluster?
2. List some sample occupations related to this activity.
3. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.

Activity 45

Optional: Hospitality and Recreation

Caring for people, especially during their leisure time, is the job of people employed in the Hospitality and Recreation Cluster. People who may stay at a park lodge or camp ground, for example, will want certain things for their pleasure and safety. This includes both goods and services.

Tour guides, recreation directors, life guards, zoo keepers and many others work in this cluster. Even the professional athlete is in the Hospitality and Recreation Cluster.

In Activity 45, you will plan, teach, and/or experience some recreational activities.

TASK 1 Recreation Instructor

Purpose:

To teach or demonstrate a recreational activity.

Steps:

1. Form groups of about five people. Choose something to teach that is related to the staff and/or equipment used for any recreational activity.
2. Assign each committee member a part to play - teaching or demonstrating the activity before the rest of the class.
3. Identify a course related to this task.

TASK 2 Group Recreation

Purpose:

To participate in a recreational activity.

Steps:

1. Choose an activity that the whole class can do. You may choose a game such as bingo or a sport such as volleyball. Try to think of some unusual recreational activities before you vote. The whole group could visit a local art gallery, see a play, or even write and stage a play.
2. Make arrangements within the school or the community for any special equipment or space needed.
3. Color the Mode Pie so that it represents the work environment(s) you experienced in this task.

45 - Optional: Hospitality and Recreation

Summary:

More and more persons are being employed in the Hospitality and Recreation Cluster. The number will increase as Americans have more leisure time and money.

Related experiences in school include clubs for recreational activities. Sports, of course, can be preparation for a career also.

Questions:

1. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.
2. List several out-of-school experiences related to this cluster.
3. What are some club or group activities in which you could participate for further experience in this cluster?

Activity 46

Reviewing Transportation

People, goods, and services must be transported to and from your community. All communities are involved in this cycle of transportation. Those who work in the Transportation Cluster, then, have many fellow workers. Considering land, sea, and air transport (and the people needed to manufacture and maintain those ships, planes, and vehicles), transportation occupations include vast numbers of people.

Many times you will have a choice of transportation. In Activity 39, you will not only plan a vacation to a new state park or other recreational facility, but choose the best means of getting there, too.

TASK 1 Vacationing at the State Park

Purpose:

To plan a family vacation to a state park.

Steps:

1. Your family is going to take a vacation at the new state park, since it appeals to everyone in the family. There are so many different things to enjoy there: clean air, a quiet, relaxing environment, and several special kinds of entertainment which many people enjoy.
2. Your family must make some decisions far ahead of vacation time. The state park likes for its visitors to try and make reservations, which means that the park promises to hold a space for the visitor and the visitor promises to rent it.
3. Not knowing much about the park, your family has written off for information. Read what the park has mailed to your family:

   Laurel Hills Park is a modern recreational facility. It provides leisure-time activities for vacationers from all over the country. Come and enjoy the beautiful natural setting and the recreational facilities.

More than 500,000 workers helped to operate the nation's fleet of *civilian aircraft* in 1972.

- To become a *copilot* for a major airline usually requires at least two years of college and 500 to 1000 hours of flying experience; then a copilot may wait from five to ten years before becoming the captain of a plane.
- Of the 23,500 *seamen* aboard U.S. oceangoing vessels in 1972, nearly 64 percent worked on freighters, 32 percent worked on tankers, and only 4 percent manned the passenger ships.
- Even though there are enough miles of railroad track in the U.S. to circle the world eight times, employment in all *railroad occupations* is expected to decline through the mid-1980's.
- *Truck drivers* employed by large freight companies had average yearly earnings of about $15,800 in 1972, which is about double the average earnings of industrial workers who are not supervisors.

Free Golf Clinics are held Tuesday and Thursday afternoons and Saturday mornings during spring, summer and fall. Reservations are appreciated.
Golf lessons are available with the Park Pro at $18.00 for a playing lesson. (The pro will play an 18-hole round of golf with you and give instructions as you play.) There is a $5.00 fee per lesson for basic instruction. Reservations are required.

Pro Shop hours – 8 a.m. to 8 p.m.
Miniature Golf – open 1 to 11 p.m. daily – $.50 per round
Par-3 Golf (9 holes) – $3.00 greens fee
Championship Golf (18 holes) – $8.00 greens fee
Club rental – $5.00 per round
Cart rental – $5.00 per round

Swimming:
Indoor Pool – open to registered guests only
Outdoor pool – no charge for registered guests; $1.00 general admission
Towel Rental – $.35

Horseback Riding:
Trail ride – $5.00 per hour, $10.00 overnight
Riding Lessons – $3.00 per hour of instruction

Lodging:

Main Stream Lodge — Scenic Rooms

	single	*double*
spring, summer, fall	$18.00	$24.00
winter	$16.00	$22.00

Other Rooms

	single	*double*
spring, summer, fall	$16.00	$22.00
winter	$14.00	$20.00

Add $2.00 for a third person in double rooms.

Trickle-by Lodge

Located at the bottom of River Gorge, admission by aerial tramway (overhead cable car), closed for the winter season.

All Rooms

	single	*double*
spring, summer, fall	$17.00	$23.00

Add $2.00 for a third person in double rooms.

Cottages

All cottages are rented from Sunday to Sunday in spring, summer, and fall. During the winter season, cottages are rented for weekends only (Friday and Saturday nights).

	4P	6P	8P
spring, summer, fall	$175	$225	$250
winter (weekends only)	$ 75	$125	$150

Portable cots may be rented for one extra person at $10 per week or $5 per weekend.

All cottages are completely furnished with linens, dishes, flatware and firewood. All have kitchen facilities, living area with fireplace, and patio area outside. Cottages for four persons have two small bedrooms and one bath. Six-person cottages have one large bedroom, one small bedroom, and 1 1/2 baths. In cottages housing eight persons, there are two large bedrooms and 2 complete baths.

Campground:
Seventy-five campsites are equipped with water and electrical hookups. Modern bathhouses with hot and cold water showers and flush toilets are conveniently located within the camping area. The campground is closed during the winter season. Reservations must be made to assure a site. Any unreserved sites may be occupied on a first-come, first-served basis.

4. Now that you know something about the state park, you are ready to figure out how much you can spend and how many things you want to do with the money. You will want to consider the following things:
   a. number of people in the group,
   b. length of stay,
   c. type of lodging (at the main lodge, at the more remote lodge, in a cottage, or at the campground),
   d. type of travel (air, rail, bus, or car),
   e. special interests (horseback riding, golf, tennis, or swimming), and
   f. special events (a weiner roast or hayride).
5. Make your choices carefully and then fill in the lodging and recreation forms which your teacher will provide.
6. Once the reservations for lodging and recreation are made, the last thing to complete is your travel plans. Choose a real park in your own state and proceed to Task 2.
7. What is a 4-H achievement related to this task?

TASK 2 Vacation Route

Purpose:

To plan transportation to a park in your own state.

Steps:

1. Take a road map and mark the route you would take to get there.
2. Get a bus schedule. Find out how long the trip takes and how much it costs.
3. Do the same, using a train schedule.
4. Find out if you and your family can fly to the park or nearby. If you can, figure the cost (including a limousine too).
5. Compare the different means of transportation. Which is the most convenient? the least costly? the most rapid?
6. Name a Scout merit badge related to this task.

Summary:

In the future, space transit will demand workers, and travel under the sea will become more common. Meanwhile, the present systems of transportation will have to be manned.

Transportation can be studied in different industrial arts and vocational education courses, as well as other school subjects. The school library may also provide information, for much has been written about transportation. Another good form of preparation is any youth organization having related activities. An example is the Scout merit badge for "Truck Transportation".

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46 - Reviewing Transportation

Questions:

1. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.
2. List several out-of-school experiences related to this cluster.
3. What are some club or group activities in which you could participate for further experience in this cluster?

Activity 47

Optional: Agribusiness and Natural Resources

Many times, industries are attracted to communities where resources and raw materials are abundant. For example, a lumber mill looks for an area abundant with trees. Likewise, a coal mine needs an area with good coal deposits. In the same way, a large automobile manufacturer builds plants only in areas where many people need employment. People can be one very important resource.

In Activity 47, you will take a look at the resources in your own community and design a product that could be manufactured there.

Vocabulary Words

abundant process

TASK 1 Community Resources

Purpose:

To learn what resources your community could supply to a business or an industry.

Steps:

1. Divide into groups of about five people and arrange your desks in a circle.
2. Choose one person to observe the group's work and fill out an observation form. This person will watch the group at work, noting what is said and how the discussion of a product idea develops into a plan. After the group has completed Task 2, he or she will read the list of observations.
3. It will be the responsibility of the other group members to make a list of natural resources that may be found in your community. Obtain a map of your area which shows the lay of the land and which could provide clues about the area's resources.
4. Make a chart such as the one below. List the community's resources in column I.

I	II	III
Natural Resources	Natural Form – Processed	Possible Products
1.		
2.		
3.		
4.		
5.		

5. Look at each resource and decide if it could be used in its natural form (such as water being used for recreation) or if it would have to be processed before using (such as turning trees into lumber). Check "natural form" or "processed" in column II.
6. In column III, list all of the ways each resource could possibly be used. See some examples on the chart.
7. Color the mode pie so that it represents the work mode(s) you experienced in this task.

TASK 2 Production

Purpose:

To manufacture a product from common materials.

Steps:

1. Either as individuals or groups, decide upon a product to make from the materials that your teacher will provide. Gravel or seeds may be the most common material, but you may need to obtain others (such as paper, glue, string, jars, etc.) in order to produce the product you have chosen.
2. First, list all the materials you will need.
3. Obtain any materials that you need but do not have. If a certain material is not available, try to think of a substitute.
4. When you have completed your product, discuss how and where you would obtain the materials you used. Could they all be found in your community? If not, would it be possible to make them?
5. Identify a course related to this task.

Summary:

Many persons earn their livelihood by obtaining or processing raw materials, such as timber, sand, soil, coal and oil, to mention just a few. Courses such as economics, geography, social studies and others will make you aware of where these materials are found and why they are so important to us. Perhaps you will pick one and research all the occupations which are dependant upon it!

Questions:

1. What job families are found in this cluster?
2. List some sample occupations related to this activity.
3. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.

Activity 48

Reviewing Business and Office Occupations

Locating, mining, gathering, and processing raw materials requires many people and businesses to get the job done. In fact, businesses of all kinds are organized everyday. Many fail.

In order to succeed, new businesses must be especially careful to choose the right kind of person for each position. The larger the business, the more specialized many jobs become. This means that a person is expected to be more responsible for one part of a business. Instead of requiring a well-rounded worker with several job skills, a large business may value the worker who does a single kind of task quickly, with little error. The combined efforts of many people then get the whole job done. Managerial, sales, skilled, and office workers must be found together with top executives.

During Activity 48, you will concentrate again on the different work modes and how they affect personnel selection.

TASK 1 Business Officers

Purpose:

To choose classmates who have work mode preferences helpful to business offices.

Steps:

1. Every business has officers or administrators with special duties and responsibilities for different areas of growth. Each of these persons needs a different set of

- *Clerical workers* formed the largest single group of workers in 1972, and the need for their services is expected to rise 40% over the next ten years.
- Most of the training needed to be a successful *clerical worker* can be completed by the time a person graduates from high school.
- In 1972, there were more than 14 million *clerical workers* whose earnings ranged from less than 100 dollars a week to over 200 dollars, depending on skill and experience.
- All *computer jobs*, including those that generally require a college education, stress the importance of learning on the job.
- Employment of *accountants* is expected to increase by 30 to 40 percent over the next ten years.
- There are about 250,000 *bank tellers* in the U.S. today, and nine out of ten are women.
- About one out three *advertising workers* are employed by large advertising agencies in New York and Chicago; the rest work directly for the companies who have products to sell.

skills. Look at the following officers and the work modes important to their positions:

President: enterprising, investigative, and social modes.
Vice President of Research: investigative, mechanical, and creative modes.
Vice President of Sales: enterprising and creative modes.
Vice President of Distribution: investigative, conventional, and mechanical modes.
Secretary: conventional and social modes.
Treasurer: conventional mode.
Director of Production: mechanical and enterprising modes.

2. Assume that your class is a large business with new officers to elect. Nominate people to fill the positions and listen to short, one-minute campaign speeches before you vote. Each person may tell why they favor certain work modes more than others.
3. After electing all officers, discuss why it is important for certain business people to be strong in certain work modes.
4. Name a Scout merit badge related to this task.

Summary:

Selecting the right people for the right job can be difficult. Yet, if people do their jobs well and work like a team, the chances of a successful business are increased.

You can learn more about business in business education courses. Later, you may even gain enough skills to be employed through vocational business courses.

Questions:

1. What are some club or group activities in which you could participate for further experience in this cluster?
2. What job families are found in this cluster?
3. List some sample occupations related to this activity.

ACTIVITY 49

REVIEWING CONSTRUCTION

Research is a relatively new business. Each cluster employs persons whose job it is to research new products, find better ways of doing things or decide the possible sales of products and services. This is also true in the Construction Cluster. Researchers test all kinds of construction products: windows, hardware and so forth. They also test the things constructed (such as roads and bridges to see if these products can stand the weather and abuse.

In Activity 49, you will research and compare some products used in the construction industry.

TASK 1 Selecting a Building Product

Purpose:

To determine what products to test.

Steps:

1. An important part of many businesses is the research and development department. People employed there look for new materials, products, or methods to replace old ones. They also may test items before they are manufactured and compare them to ones already on the market.
2. Make a list on the blackboard of common construction products you could test. Try to think of ones already in your classroom, school bookstore, or home. Some examples are glue, nails, cloth, rugs, and so forth.
3. Working in small groups or alone, select a product you would like to research. If you choose an item like glue, you could compare several kinds: white glue, epoxy cement, and rubber cement.
4. Now think of the conditions under which you would like to test your product. See the example on page 238.
5. Color the mode pie so that it represents the work mode(s) you experienced in this task.

- *Construction craftsmen* represent the largest group of skilled workers in the U.S. labor force.
- One-third of all construction craftsmen are *carpenters*.
- *Apprentices* in the construction trades must usually be at least 18 years old and receive two to five years of training.
- Employment in the *construction trades* is expected to increase by more than thirty percent over the next ten years.
- Hourly wage rates for *construction tradesmen* are near the top for skilled workers.
- About four million people worked as *unskilled laborers* in 1972, but there will be little increase in the demand for these workers by 1985.

TASK 2 Product Testing

Purpose:

To test the product you chose.

Steps:

1. Obtain both the products and materials you need for testing: glues, wood, water, pen, scraper, and so forth.
2. Now set up your test. Make sure you know the conditions under which you will test each product, because it is very important to keep the same conditions. You want to be sure that your test results come from the differences in the items and not from different testing conditions.
3. Make a chart or summary sheet so you can record your research on each product.
4. Conduct your test and repeat for each condition you are testing.
5. Look over your results. Which product was the best in each individual condition test? Can you choose the best overall product?
6. Share your results with the class.
7. What is a 4-H achievement related to this task?

Summary:

Experience in research can be a part of any exploratory course. A science course may help you understand the correct way of doing research. However, the tools and materials of research may be different for industrial arts, art, business, home economics or agriculture courses. Research can be fun, and it can be done at home in your room, basement or garage. This preparation could pay off, for there will continue to be a need for researchers in the future.

CATEGORY: GLUES

PRODUCTS:	White Glue	Epoxy	Rubber Cement
Holding power: normal			
Holding power: when wet			
Color: when dry			
Ease of removing excess glue: when dry			

Questions:

1. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.
2. List several out-of-school experiences related to this cluster.
3. What are some club or group activities in which you could participate for further experience in this cluster?

ACTIVITY 50

OPTIONAL: MARKETING AND DISTRIBUTION

Research into the possible sale of a new product is needed before a business will put large amounts of money into it. This market research must be done very carefully. (Can you remember a product that failed to sell?)

In Activity 50, you will make a "sales forecast" — an attempt to predict whether a new product will sell well or not. Often this is done by taking a survey of the people who might buy the product.

TASK 1 Developing a Survey

Purpose:

To develop a survey on how well a product will sell.

Steps:

1. In order to find out if a new product or service will sell, most of the time business firms will do market research. This gives a clearer understanding of how well a product will sell to the public.
2. Divide into five groups and choose a chairperson for each. Select a product or good that you would like to research. Each group will make a list of questions about the product:

   Group 1: *Usefulness* of the product

   Group 2: *Cost* of the product

   Group 3: *Attractiveness* of the product

   Group 4: *Who* should be surveyed (age, sex, occupation and so forth)

   Group 5: *How* and *where* the survey should be done

3. The chairperson for each group will assign a representative to report to the class.
4. After short reports and discussion, draft a list of questions for the survey.

   Sample Questions

   1. What is your age? 10-12 _____ 13-15 _____ 16-18 _____
   2. Would you buy this product? Yes _____ No _____
   3. Would you prefer this product in blue or red? Blue _____ Red
   4. Would you prefer style A or B? A _____ B _____

5. With the teacher's help, decide *WHO* will do the interviewing, *WHERE* it will be done, *WHEN*, and *HOW*. If this is done as an outside assignment, read Task 2 first.
6. Color the mode pie so that it represents the work mode(s) you experienced in this task.

TASK 2 Conducting a Survey

Purpose:

To complete the consumer survey and make a sales forecast.

Steps:

1. There are several ways to complete the survey:
   a. Some persons may be interviewed with tape recorder and you can tally their answers later.
   b. Interviewers may write down the responses if they are not using a tape recorder.
   c. If a class is surveyed, students may raise their hands to answer.
   d. Written questionnaires may be passed out and collected.
2. Take the survey and then tally the answers. The teacher may assign someone to report the results.

SURVEY FORM
TALLY SHEET

SAMPLE

TOTAL NUMBER SURVEYED 40

QUESTION No.*		AGE 10-12	13-15	16-18	TOTALS
1.	YES (GIRLS)	𝍸 I	III	III	12
	NO (GIRLS)	II	IIII	II	8
	YES (BOYS)	𝍸 III	𝍸	II	15
	NO (BOYS)	II	0	III	5
2.	BLUE (GIRLS)	II	III	0	5
	RED (GIRLS)	𝍸 I	IIII	𝍸	15
	BLUE (BOYS)	0	III	I	4
	RED (BOYS)	𝍸	IIII	𝍸 II	16
3.	STYLE A	III	II	II	7
	STYLE B	𝍸 𝍸 I	𝍸 IIII	𝍸 𝍸 III	33

* QUESTIONS FOR THE TALLY SHEET SHOULD BE WRITTEN ON A SEPERATE PIECE OF PAPER.

3. Discuss what you learned from the survey and make a final report or *SALES FORECAST*. In it, describe the results of the survey and how you think the product will be received by consumers. Charts and illustrations may be used.
4. Identify a course related to this task.

Summary:

Some high schools have courses in Distributive Education, which is related to this cluster. Sometimes, Home Economics may also deal with tasks related to the Marketing and Distribution Cluster. Junior Achievement is another related experience of value. There are several out-of-school activities that may be considered good preparation for these occupations.

Questions:

1. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.
2. List several out-of-school experiences related to this cluster.
3. What are some club or group activities in which you could participate for further experience in this cluster?

ACTIVITY 51

REVIEWING MANUFACTURING

Many people are employed in the Manufacturering Cluster: scientists, engineers, technicians, craftsmen, managers, and executives. There are also skilled, semi-skilled and unskilled workers.

Sometimes a person's skills may depend upon what is being manufactured, but often they do not. For example, a person responsible for the smooth operation of an assembly line can do his or her job no matter what is being produced. If moved to a new job, very little retraining is necessary. In the same way, a machine operator can operate a lathe, no matter what is being made.

If a job requires special preparation, a company may arrange its own training. There are also private institutions which offer vocational education. Sometimes, if a company needs certain kinds of help, it may make special arrangements for a school to do its training.

In Activity 51, you will manufacture an item and learn some of the different kinds of persons needed to get the job done.

TASK 1 Manufacturing a Banner

Purpose:

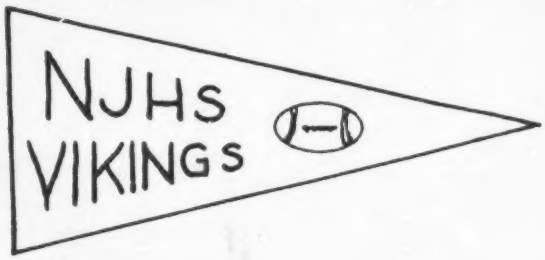
To design a school banner.

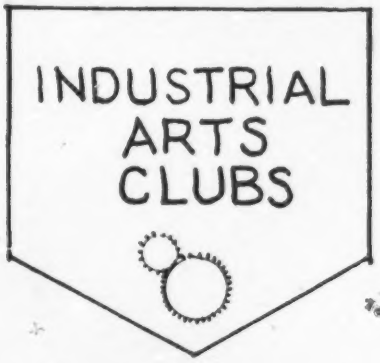
Steps:

1. Decide on the shape and size that your school banner should be.
2. Next, choose a design or emblem to

- About 20 million people work in *manufacturing*, making it the largest of all major industries.
- *Blue-collar workers* (craftsmen, foremen, machine operators, and laborers) make up about two-thirds of manufacturing employment.
- *Clerical workers* hold one out of every eight jobs in manufacturing.
- *Professional and technical workers* (engineers, scientists, technicians, etc.) account for one out of ten jobs in manufacturing.
- One fifth of all women who work are employed in *manufacturing*.
- Most skilled workers in manufacturing, such as *machinists and patternmakers*, need a high school diploma and three or four years of apprenticeship to learn their trade.
- *Assemblers* are the people in the manufacturing industry who put products together and, in 1972, half of the one million assemblers in the U.S. were women.
- Most *foremen* in manufacturing rise through the ranks - which means they are promoted from simpler jobs. In choosing foremen, employers more often look for skill, experience, and leadership abilities than for a college degree.

be on the banner. You may already have a school "trademark."
3. Using the materials given to you, cut out the banner in the shape desired.
4. Cut out the symbols to be glued on the banner.
5. If your banner will have writing on it, cut out the letters or draw them directly on the material. They may be drawn lightly in pencil on paper material, or use soap on cloth. Fill in with magic markers.
6. Assemble all parts of the banner with glue.
7. Clean up.
8. Identify a course related to this task.





Summary:

Since the many skills needed in the Manufacturing Cluster are so different, it is difficult to recommend special courses to take. However, Industrial Arts will give you a general understanding of manufacturing. For particular manufacturing industries, industrial education (such as electronics, mechanics, printing and so forth), is excellent preparation.

Questions:

1. What job families are found in this cluster?
2. List some sample occupations related to this activity.
3. a. What school courses could give you more information about this cluster?
   b. List the courses' activities that are related to each of the six work modes.

VOCABULARY WORDS

A

abundant - plenty

abstract - an idea or quality that is not touchable

accommodations - lodging

accurate - correct

adaptable - adjustable or something that can be made suitable

adolescence - the time between childhood and adult hood

affirmative - for, not against

aggressive - forward, bold

ancestors - a person's relatives in the past

apparel - clothing

aptitude - natural ability

apparent - noticeable, easily understood

assets - valuable qualities or possessions

astern - backward, toward the back of a ship

attentive - listening or watching carefully

avocation - a hobby or activity other than one's job

B

barb - a sharp point turned backward

body language - gestures, including facial expressions, touch, eye contact, and body movements

bow - the front of a ship

brayer - a hand roller

buoy - a float marking a dangerous spot

C

categorize - to group

civil suit - a legal action concerning the private rights of an individual

coil - a series of rings

collate - to put together in numerical order

communicate - to tell

complex - complicated, not simple

composition - arranging parts in order to make a whole

concrete - real or material; the opposite of abstract

consumers - those who buy and use products and materials

craftsmen - workers in the skilled trades who build furniture, make jewelry, etc.

criminal suit - a legal action involving a major crime

curriculum - a course or courses

current - continuous onward movement of water

D

debate - a formal argument with rules

descriptors - words or phrases that describe

deduction - something substracted

deposit - something added or put in

destination - a place to which a person is traveling

dimensions - measurements

dispatch - to send off or out, to direct

disposition - a person's temperament or frame of mind

E

ecology - the relationship of man and nature

environment - the surroundings

exploratory course - a class for discovering more about a subject or interest

F

facilities - the space and equipment needed for an activity

flexible - adaptable, changeable

focus - the center of interest

food additives - chemicals added to food as nutrients or preservatives

full-scale - an original or standard measure

H

heredity - the influence of one's ancestors

human relations - a person's association with others

humanistic - merciful, kind, sociable

humidity - the amount of moisture in the air

I

inclination - a liking or preference for a thought, action, or thing

inherit - to receive from an ancestor

interest - payment for the use of money

interests - ideas or items that cause concern or curiosity

issue - a topic, question, problem

K

knots - the measure of a ship's speed

L

landscape - to improve a piece of land, such as by planting

launch - to start

leisure - having to do with a person's free time

log - a day-by-day record

M

malfunction - to fail to work properly

manipulate - to handle or use

mass media - TV, radio, newspapers and magazines

miscellaneous - mixed or varied

microscope - an instrument for viewing those things that cannot be seen by the eye alone

misdemeanor - a minor or small crime

monetary - having to do with money

municipal - having to do with a town or local government

N

natural resources - real or possible forms of wealth supplied by nature, such as air, water, coal, oil, and so forth

navigation - directing the course of a ship

negative - against

non-verbal movements - actions that send messages

numerical - in a numbered order

O

occupational cluster - groups of jobs

oral presentation - a talk before others

ordinances - laws or regulations

P

pantomime - communication without words

patron - customer

perishable - liable to spoil

personnel - employees, workers

pesticides - chemicals used for killing insects, weeds, and so forth

picturesque - beautiful, striking

pollution - contamination

port - the left side of a ship

potential - an undeveloped ability

precipitation - a depositing of rain, snow or sleet

preference - choice

preservatives - anything that preserves, such as a substance added to food to keep it from spoiling

process - a procedure or method of doing something

pros & cons - points for and points against

Q

quality - good, excellent, or superior

quill - the spine of a feather

R

radar - an electronic tracking device

rank - to assign a position, such as first, second, or third

reproduction - duplication, copying

S

sanitary - without contamination, clean

self-awareness - knowing yourself

self-expression - personal ideas which are made known

simulate - to imitate

sophisticated - wise

specialize - to train in a particular skill

specific - definite, special

spectator - an onlooker

spelunking - exploring caves

starboard - the right side of ship

stationary - fixed

stern - the back of a ship

steward - one who provides services to others in places such as aboard a ship

T

tally - to add up

temperament - one's nature or frame of mind

terminal - the servicing facilities at either end of a transportation line

three-dimensional - having thickness, as well as height and width

U

unique - one of a kind

utensil - an instrument or container

V

values - standards accepted as worthy, desirable or useful

variable - changeable

variation - change

verbal - spoken, rather than written

W

withdraw - to take out

work styles - ways of working

Z

zoning - dividing land into sections for certain purposes, such as for business, residential, agriculture, etc.

GLOSSARY

avocation - a hobby; interests other than a person's occupation.

career - a series of jobs or occupations which a person has held or plans to seek.

career education - a means of helping students at all levels become aware of the world of work by putting personal characteristics together with the world of work.

cluster - a grouping of occupations; also a phase of "Careers and You" in which students simulate work in the 15 USOE occupational clusters.

communication - expressions of language, including facial expressions and body language.

conventional mode - routine work with data.

creative mode - imaginative, artistic work.

enterprising mode - persuasive, adventurous work with people.

environment - the influence of one's surroundings.

exploration - experiencing various parts of a course or area.

exploratory course - class for learning more about a particular skill or subject.

extracurricular school activities - school activities outside of the regular course of study.

heredity - the influence of one's ancestors.

investigative mode - work with data which involves reading, analysis and writing.

job - an activity performed in exchange for payment.

junior high school - generally grades 7, 8, and 9.

mechanical mode - work with things requiring physical coordination.

middle school - generally grades 6 through 8.

mode - a way of working; also a section of "Careers and You" in which students do activities to gain an understanding of the different modes.

occupation - a job; a regular source of income.

orientation - a level of education between awareness and exploration; gaining an understanding of the make-up of a system or area.

personality - all of a person's characteristics.

planning - a phase of "Careers and You" providing activities for students to plan for courses, extracurricular and out-of-school experiences.

self - a person's personality; also a phase of "Careers and You" in which students complete activities that help them better understand themselves.

social mode - responsible, humanistic work with other people.

styles of work - modes of work; ways of working.

work environment - a place where work is done; also a work climate (both physical and mental).

vocational education - education which trains high school students in specific job skills for the purpose of paid work.

APPENDICES

APPENDIX A

4-H PROJECTS AND ACTIVITIES

Animal Science Program Area

Beef
Dairy
Dog Care and Training
Horse and Pony
4-H Livestock Advancement
Meats
Poultry
Rabbit
Sheep
Swine
Veterinary Science

Community Development Program Area

Community Improvement
(Beautification)
4-H Community Resource
Development

Creative Arts Program Area

Photography
Share-the-Fun

Economics Program Area

Consumer Education
Let's Start a Business
Town and Country Business

Engineering Program Area

Automotive Care and Safety
Bicycle
Electric
Engineering Woodworking
Petroleum Power
- Small Engines
- Tractor

Safety

Food Industry

Dare to Discover

Home Economics Program Area

Clothing
Family Life Education
Foods and Nutrition
Home Environment
Home Management
Money Management

Natural Resources Program Area

Introduction to Conservation of
Natural Resources
Soil and Water Conservation
Entomology
Forestry
Wildlife
Fishing

Personal Development Program Area

Health
Leadership
International Intrigue
Self-Determined Projects

Plant Science Program Area

Agronomy
Horticulture

Appendix B

Scout Badges

Junior Girl Scout Badges

Active Citizen
Art in the Round
Backyard Fun
Books
Collector
Community Safety
Cook
Cyclist
Dabbler
Dancer
Drawing & Painting
Folklore
Foot Traveler
Gypsy
Health Aid
Home Health & Safety
Hospitality
Housekeeper
Indian Lore
Magic Carpet
Musician
My Camera
My Community
My Home
My Trefoil
My Troop
Needlecraft
Observer
A Troop's Special Interest Badge
Outdoor Cook
Pen Pal
Personal Health
Pets
Prints
Rambler
Sewing
Skater
Songster
Storyteller
Toymaker
Troop Camper
Troop Dramatics
Water Fun
Weaving & Basketry
World Neighbor
World Games
Writer

Cadette Girl Scout Badges

Animal Kingdom
Aviation
Campcraft
Ceramics & Pottery
Chef
Child Care
Clerk
Conservation
Creative Writer
Dressmaker
Explorer
Family Camper
Family Living
First Aid
First Aid to Animals
Folk Dancer
Food Raiser
Games Leader
Good Grooming
Graphic Arts
Handywoman
Hiker
Homemaker
Home Nurse
Horsewoman
Hostess
Interior Decoration
Language
Life Saver
Metal Arts
Minstrel
Music Maker
My Country
My Government
Outdoor Safety
Painting
Photography
Pioneer
Plant Kingdom
Player-Producer

(Cadette Girl Scout Badges)

Public Health
Puppeteer
Radio & Television
Reader
Reporter
Rock & Mineral
Science
Small Craft
Social Dancer
Sports
Stamp Collector
Star
Swimmer
Textile Arts
Traveler
Weather
World Heritage
World Trefoil
World Understanding
Troop's Badge

Senior Scout Service Aides

Animal Care Aide
Aquatic Safety Aid
Child Care Aide
Aide to Handicapped Persons
Hospital Aide
International Aide
Laboratory Aide
Library Aide
Merchandising Aide
Museum Aide
Office Aide
Program Aide
Public Relations Aide
Ranger Aide
Teacher Aide

Cadette Scout Challenges

The Challenge of the Arts
Community Action
Environment
International Understanding
Knowing Myself
My Heritage
Out-of-Doors
Today's World

Boy Scout Merit Badges

Agriculture
American Business
Animal Science
Archery
Architecture
Art
Astronomy
Athletics
Atomic Energy
Aviation
Basketry
Beekeeping
Bird Study
Bookbinding
Botany
Bugling
Camping
Canoeing
Chemistry
Citizenship in the Community

(Boy Scout Merit Badges)

Citizenship in the Nation
Citizenship in the World
Coin Collecting
Communications
Computers
Consumer Buying
Cooking
Cycling
Dentistry
Dog Care
Drafting
Electricity
Electronics
Emergency Preparedness
Engineering
Environmental Science
Farm Arrangements
Farm Mechanics
Farm Records
Fingerprinting
Firemanship
First Aid
Fish and Wildlife Management
Fishing
Forestry
Gardening
Genealogy
General Science
Geology
Hiking
Home Repairs
Horsemanship
Indian Lore
Insect Life
Journalism
Landscape Architecture
Law
Leatherwork
Lifesaving
Machinery
Mammals
Masonry
Metals Engineering
Metalwork
Model Design and Building
Motorboating
Music
Nature
Oceanography
Painting
Personal Fitness
Personal Management
Pets
Photography
Pigeon Raising
Pioneering
Plant Science
Plumbing
Pottery
Printing
Public Health
Public Speaking
Pulp and Paper
Rabbit Raising
Radio
Railroading
Reading
Reptile Study
Rifle and Shotgun Shooting
Rowing
Safety
Salesmanship
Scholarship
Sculpture
Signaling
Skating
Skiing
Small-Boat Sailing
Soil and Water Conservation
Space Exploration
Sports
Stamp Collecting
Surveying
Swimming
Textile
Theater
Traffic Safety
Truck Transportation
Veterinary Science
Water Skiing
Weather
Wilderness Survival
Wood Carving
Woodwork

Explorer Scouts is a program for males and females 15 years of age and above. The object is to learn more about nature. Though it is organized as a troop, there is no need for previous Scouting experience. The troop may also be involved in community projects.

The Exploring Program is a Scout-sponsored experience for young people who desire to learn more about certain careers. Agencies or individuals in the community allow these young people to work as interns or apprentices in occupations in which they have an interest. A group leader helps to coordinate the arrangements, such as planning a schedule which suits both a young person still in school and the agency with which he or she will be working.

APPENDIX C

EXAMPLES OF COURSES WITHIN AREAS OF VOCATIONAL EDUCATION

AGRICULTURE

Grades: 7-12

Basic Courses:
Animal Science, Plant Science

Advanced Courses:
Agricultural Machinery Service, Agricultural Production, Agricultural Business, Agricultural Processing and Marketing, Ornamental Horticulture, Conservation and Forestry.

Content:
Agriculture courses deal with agriculture production, providing supplies and services for agriculture production, and processing and marketing agricultural products.

Related Clusters:
Hospitality and Recreation, Agribusiness and Natural Resources, and Environment

Aim of the courses:
To provide occupational exploration and job preparation.

BUSINESS

Grades: 7-12

Basic Courses :
General Business, Office Occupations

Advanced Courses:
Accounting, Computing, and Related Occupations; Business Data Processing Systems Occupations; Filing, Office Machines and General Clerical Occupations; Information Communications Occupations; Support Occupations; Stenographic, Secretarial and Related Occupations; Typewriting and Related Occupations.

Content:
Business courses deal with basic business and economic rules, the wise use of business services, and business communication skills.

Related Clusters:
Public Services, Business and Office, Personal Services

Aim of the courses:
To provide career orientation, occupational exploration and job preparation.

DISTRIBUTIVE EDUCATION

Grades: 10-12

Basic Courses:
Distributive Education I and II

Advanced Courses:
Marketing I and II, Senior Marketing, Fashion Merchandising, Food Distribution, Petroleum Marketing, and Hotel-Motel Management.

Content:
Distributive education courses deal with the distribution of products and the related services by providing on-the-job training and supervision.

Related Cluster:
Marketing and Distribution

Aim of the courses:
To provide job preparation, on-the-job training, and opportunities for pay.

HOME ECONOMICS

Grades: 7-12

Basic Courses:
General Home Economics and Occupational Home Economics

Advanced Courses:
Child Development, Clothing, Foods, Family Relations and Recreation, Home Furnishings.

Occupational Courses:
Child Care Services, Clothing Services, Food Services, Home Furnishing Services, and Home and Institutional Services.

Related Clusters:
Consumer and Homemaking, Personal Services, Hospitality and Recreation, and Public Services

Aim of the courses:
To provide career orientation, occupational exploration, job preparation, and on-the-job training.

INDUSTRIAL ARTS

Grades: 7-12

Basic Courses:
Exploring Technology, General Industrial Arts, Manufacturing, Construction, Communications, Transportation, and Mechanical Drawing.

Advanced Courses:
Graphic Arts, Engineering and Architectural Drawing, Metalworking, Photography, Woodworking, and Electricity-Electronics.

Related Clusters:
Transportation, Communications, Manufacturing, and Construction.

Aim of the courses:
To provide occupational exploration and job preparation.

TRADE AND INDUSTRIAL

Grade: 7-14 (high school plus community college or technical school)

Occupational Courses:
Auto Mechanics, Cosmetology, Masonary, Cabinetmaking, Carpentry, Drafting, Electricity, Electronics, Needle Trades, Practical Nursing, and Printing.

Related Clusters:
Health, Personal Services, Communications, Manufacturing, Marine Science, and Construction.

Aim of the courses:
To provide career orientation, occupational exploration, job preparation, and on-the-job training.

Appendix D

Hobbies

Almost any activity can be a hobby (or an avocation). Experiences that are work for one person will be be hobbies for another.

Animals
- study (of breeds and so forth)
- care (nutrition, handling, etc.)

Art
- mobiles
- paper mache
- decoupage
- oils
- water colors
- acrylics
- sketching

Collecting
- autographs
- bells
- butterflies
- buttons
- coins
- documents
- dolls
- fans
- insects
- match covers
- menus
- minerals
- miniatures
- old phonograph records
- plants
- prints
- rocks
- shells
- theatre programs

Creating
- block printing
- cooking
- designing
- dolls and doll houses
- gardening
- greeting cards
- illustrating
- miniatures
- new games
- poetry
- puppets
- sewing
- writing

Dance
- appreciation (Folk, popular, and
- participation impressionistic
- study dancing and Classical and folk ballet)

Drama
- studying
- performing
- viewing

Handicrafts
- candlemaking
- ceramics
- enameling
- glass blowing
- jewelry making
- leatherwork
- mosaics
- pottery
- rug making
- weaving
- woodcarving
- woodworking

History
- studying (periods, folklore, etc.)
- collecting and repairing (war relics, transportation items, clocks, house furnishings, clothing, etc.)

Needlework
- embroidery
- knitting
- needlepoint
- quilting
- sewing

Magic
- studying
- performing

Model Making
- bridges
- cars
- planes
- ships

(Model Making)

- theatres
- trains

Music

- studying (periods, instruments, etc.)
- singing or playing an instrument
- composing music and lyrics
- appreciation

Reading

- general
- technical (such as automobiles, heating systems, etc.)
- categorical (biographies, novels, science fiction, mysteries, etc.)
- special interest (geography, psychology, etc.)

Sports (Participatory and spectator)

- baseball
- handball
- football
- wrestling
- swimming
- volleyball
- bowling
- golf
- tennis

APPENDIX E

MORE CAREER EXPERIENCES

Local Recreation Departments, YMCA's, or YWCA's may sponsor:

- classes in special interests, such as pottery, oil painting, bridge, oriental cooking, bicycle repair or gardening;
- sports experiences, such as instruction in tennis, swimming, or gymnastics and leagues in volleyball, softball or football; and
- enrichment experiences, such as trips to points of special interest or programs related to nature.

Local Red Cross Chapters may sponsor:

- Candy Stripers, which is a volunteer program offering practical work experience at local hospitals; or
- community service projects in which young people may serve.

Junior Achievement may sponsor:

- leadership activities for young people, such as public speaking contests.

APPENDIX F
READING RESOURCES

*Agribusiness and Natural Resources

1. "Agriopportunities", American Cyanamid Company, Princeton, NJ.

2. "Choose Agriculture for an Interesting Career", Professional Personnel Recruitment Committee in Agricultural Education, American Vocational Association, 1510 H Street, NW, Washington, DC.

3. "Careers in Landscape Architecture," College of Agriculture and Environmental Science, Rutgers State University, New Brunswick, NJ.

4. "Careers in Wholesale and Retail Floristry", Dr. John A. Wright, Professor of Horticulture, Box 4028, Tech Station, Ruston, LA.

5. "Careers for Youth in the Poultry Industry," Western Poultry Congress, P.O. Box 307, Baldwin Park, CA.

6. "An Engineering Career for You in the Soil Conservation Service," No. 715, Soil Conservation Service, U.S. Department of Agriculture, Washington, DC.

7. "Jobs in Agribusiness." Robert J. Houlehen. Lothrop, Lee and Shepard Co., NY.

*Business and Office

1. Jobs in Business and Office. James Haskins. Lothrop, Lee and Shepard Company, NY.

2. Exploring Business and Office Occupations. Marla Peterson. Gregg Division McGraw Hill Book Co., NY.

*Communications and Media

1. "Careers in Business Publishing." Sigma Delta Chi, National Professional Journalism Society, 35 Wacker Drive, Chicago, IL 60601. Pamphlet Free.

2. "Magazine Journalism: A Career for You?" Sigma Delta Chi, National Professional Journalism Society, 35 Wacker Drive, Chicago, IL 60601. Pamphlet Free.

3. "Newspaper Journalism." Sigma Delta Chi, National Professional Journalism Society, 35 Wacker Drive, Chicago, IL 60601. Pamphlets Free.

4. "Education for Journalism Careers." Association for Education in Journalism, Executive Secretary, 435 Henry Mall, University of Wisconsin, Madison, WI 53706. Pamphlet Free.

5. "Answers to Some Questions About Careers in Graphic Communications." Education Council of the Graphic Arts Industry, Inc., 4615 Forbes Ave., Pittsburgh, PA 15213. Pamphlet free.

6. "Careers in Photographic Science and Engineering." Society of Photographic Scientists and Engineers, Suite 204, The Thomas House, 1330 Massachusetts Ave., NW, Washington, DC 20005 Pamphlet Free.

7. "Careers in Speech Communication." Speech Communication Association, Stotler Hilton Hotel, New York, NY 10001. Pamphlet 15¢.

8. "Photographers." Photographic Laboratory Occupations (No. 1650-40). Superintendent of Documents, Washington, DC 20402. 15 cents.

9. "Radio and Television Broadcasting, Radio and Television Announcers, Broadcast Technicians." (No. 1650-102). Superintendent of Documents, Washington, DC 20402. 15 cents.

10. "Telephone Industry". (No. 1650-122) Superintendent of Documents, Washington, DC 20402. 15 cents.

Book

Jobs in Communication. Edward Hakin. Lee, Lothrop, & Shepard Co., NY.

*Construction

Booklets

1. "Careers in Sheet Metal - The Day You Choose a New Hat," Alcoa Building Industries.

2. "Employment Outlook for Cement Masons, Lathers and Plasterers," Portland Cement Association, 33 W. Grand Ave., Chicago, IL 60610.

3. "Construction: Opportunities Unlimited," Manpower and Training Committee of the Associated General Contractors of America, 1957 E Street, NW, Washington, DC 20006.

Book

Jobs in Construction. Arthur Liebers, Lothrop, Lee & Shephard Company, NY.

*Consumer and Homemaking Ed.

Books

1. Jobs That Help the Consumer and Homemaker, Lothrop, Lee & Shepard Co., NY.

2. Exploring Occupations in Food Service and Home Economics. Marilyn Carruth Baker. Gregg Division. McGraw Hill Book Co., NY.

*Environment

Books

1. Career Education in the Environment: A Handbook. Olympus Research Corp., Government Printing Office, Washington, DC 20402.

2. Opportunities in Environmental Careers. Odom Fanning. National Foundation for Environmental Control. Washington, DC.

3. Jobs That Save Our Environment. Melvin Berger. Lee, Lothrop & Shepard Co. NY.

*Fine Arts and Humanities

Books

1. Choices: Situations to Stimulate Thought and Expressions. Thelma Altshuler, Prentice-Hall Englewood Cliffs, NJ 07632.

2. Art Career Guide. Donald Holden, Watson-Guptill Co., 1 Astor Plaza, New York, NY 10036.

3. Jobs in Fine Arts and Humanities. Melvin Berger. Lothrop, Lee & Shepard, NY.

Pamphlets

1. "Careers for Women in Broadcasting", American Women in Radio and Television, Inc., 1321 Connecticut Ave., NW, Washington, DC 20036.

2. "Careers in Television," National Association of Broadcasters. 1771 N Street NW, Washington, DC 20036.

3. "Careers in Music", Music Educators National Conference, 1201 16th St., NW, Washington, DC 20036.

*Health

1. Health Career Guidebook, U.S. Government Printing Office. Washington, DC 20402.

2. Horizons Unlimited, American Medical Association, 535 North Dearborn St., Chicago, IL 60610.

3. Jobs in Health Care. Stanley L. Englebardt. Lothrop, Lee & Shepard Co. NY.

*Manufacturing

1. Jobs in Manufacturing. Robert J. Houlehen. Lothrop, Lee & Shepard Co. NY.

2. Exploring Occupations in Engineering and Manufacturing. Harold S. Resnick, John B. Gradwell. Gregg Division, McGraw Hill Book Co. NY.

*Marine Science

1. Jobs in Marine Science, Frank Ross, Jr. Lothrop, Lee & Shepard Co. NY.

2. Exploring Occupations in Science, Fine Arts and Humanities. Lorraine M. Davis. Gregg Division. McGraw Hill Book Co. NY.

*Marketing and Distribution

Books

1. Careers and Opportunities in Retailing. Harriet Wilinsky, E. P. Dulton and Company, 201 Park Avenue South, New York, NY 10003.

2. Marketing, Business and Office Specialists, Career Opportunities for Technicians, Edited by Walter M. Arnold and Garlana D. Wiggs, J. G. Ferguson Publishing Company. 6 North Michigan Ave., Chicago, IL 60602.

3. Jobs in Marketing and Distribution. Elvajean Hall. Lothrop, Lee & Shepard Co.

4. Exploring Marketing Occupations. Gary R. Smith, Barbara Sethney Vorndran, Charles S. Winn. Gregg Division, McGraw Hill Book Co. NY.

*Personal Services

1. Jobs in Personal Services. Beatrice & Calvin Criner. Lothrop, Lee & Shepard Co. NY.

2. Exploring Occupations in Personal Services, Hospitality, and Recreations. Barbara Sethney Vorndran. Gregg Division McGraw Hill Book Co., NY.

*Public Service

1. Jobs in Public Service. Beatrice & Calvin Criner. Lothrop, Lee & Shepard Co. NY.

2. Exploring Occupations in Public and Social Services. Gregg Division McGraw Hill Book Co. NY.

*Recreation and Hospitality

1. Jobs in Recreation. Lothrop, Lee, & Shepard Co. NY.

*Transportation

Pamphlets

1. "Employment Outlook for Industrial Traffic Managers, Purchasing Agents," U.S. Department of Labor, Bureau of Labor Statistics, Washington, DC.

2. "Employment Outlook for Aircraft, Missile and Spacecraft Manufacturing," U.S. Dept. of Labor, U.S. Government Printing Office, Washington, DC.

3. Career Opportunities at United Air Lines - Information sheets. United Airlines, P.O. Box 66100, Chicago, IL 60666.

4. "Directory of Transportation Education," Public Relations Department, American Trucking Associations, Inc. 1616 P Street NW, Washington, DC 20036.

5. "Careers in the Oil Industry," American Petroleum Institute, 1801 K Street NW, Washington, DC 20036.

Book

1. Jobs in Transportation. Genevieve Gray. Lothrop, Lee & Shepard Co. NY.

*General Reading Resources

1. Occupational Outlook Handbook, Bulletin No. 185, Superintendent Government Printing Office, Washington, DC 20402. $6.85.

2. The Encyclopedia of Career and Vocational Education, 3rd edition, Ed. by William E. Hopke, Garrett Park Press, Garrett Park, MD 20766. $28.15 (library and school discount).

3. On Working: What People Do All Day and How They Feel About It, Studs Terkel, Pantheon Books. $10.00.

4. Finding Your First Job (Paperback), Carl McDaniels, Houghton Mifflin Co. 1975.

5. 101 Summer Jobs, Roberta Ashley, Tempo Books, Grosset & Dunlap, 1970.

6. How Teenagers Can Get Good Jobs, Paul & Robert Gelinos, Pichards Rosen Press, NY, 1971.

7. What Students Should Know About Interviewing, Educational Communications, Room 901, 570 Lexington Ave., New York, NY 10022. Free.

8. Jobs in Your Future, Miriam Lee, Scholastic Book Services, New York, 1973.

9. The National Apprenticeship Program 1972, U.S. Department of Labor, Manpower Administration, U.S. Government Printing Office, Washington, DC 20402.

10. Careers Through Non-traditional Education, Sarah Splaver, Julian Messner Publishers, New York, 1974.

11. Non-traditional Careers for Women, Sarah Splaver, Julian Messner Publishers, New York, 1973.

12. Navy Training/Civilian Careers: To Be Someone Special, U.S. Navy Recruiting Command, Washington, DC, 1973.

APPENDIX G

TRADE ASSOCIATIONS AND AGENCIES RELATED TO THE 15 CLUSTERS

1. Agriculture and Natural Recourses
   U.S. Department of Agriculture, Washington, DC 20250.

2. Business and Office
   Data Processing Management Association, 505 Busse Highway, Park Ridge, IL 60068.

3. Communications
   National Association of Broadcasters, 1771 N Street, NY, Washington, DC 20036.

4. Construction
   Associated General Contractors of America, Inc., 1957 E Street NW, Washington, DC 20006.

5. Consumer and Homemaking
   The Council on Hotel, Restaurant and Institutional Education, 1552 K Street NW, Washington, DC 20005.

6. Environment
   National Environmental Health Association, 1600 Pennsylvania St., Denver, CO 80203.

7. Fine Arts
   Professional Photographers of America, Inc., 1090 Executive Way, Oak Leaf Commons, Des Plains, IL 60018.

8. Health
   American Nurses Association Committee on Nursing Careers, American Nurses' Association, 2420 Pershing Road, Kansas City, MO 64108.

9. Hospitality and Recreation
   National Recreation and Parks Association, 1601 North Kent St., Arlington, VA 22209.

10. Manufacturing
    Electronic Industries Association, 2001 Eye St. NW, Washington, DC 20006.

11. Marine Science
    International Oceanographic Foundation, 10 Rickenbacker Causeway, Virginia Key, Miami, FL 33149.

12. Marketing and Distribution
    National Association of Realtors, Department of Education, 155 East Superior St., Chicago, IL 60611.

13. Personal Service
    Associated Master Barbers and Beauticians of America, 219 Greenwich Road, P.O. Box 17782, Charlotte, NC 28211.

14. Public Service
Fraternal Order of Police, National Headquarters, 3094 Bertha St., Flint, MI 48504.

15. Transportation
American Trucking Association, 1616 P Street NW, Washington, DC 20036.

APPENDIX H

REGULATIONS CONCERNING CHILD LABOR

CHILD LABOR REGULATION NO. 3

Employment of 14- and 15-year-old minors is limited

to certain occupations under conditions which do not interfere with their schooling, health, or well-being.

(a) *14- and 15-year-old minors may not be employed:*

(1) DURING SCHOOL HOURS, except as provided in paragraph (b).
(2) BEFORE 7 a.m. or AFTER 7 p.m. except 9 p.m. from June 1 through Labor Day (time depends on local standards).
(3) MORE THAN 3 HOURS A DAY — on school days.
(4) MORE THAN 18 HOURS A WEEK — in school weeks.
(5) MORE THAN 8 HOURS A DAY — on nonschool days.
(6) MORE THAN 40 HOURS A WEEK — in nonschool weeks.

(b) In the case of enrollees in work training programs conducted under Part B of Title I of the Economic Opportunity Act of 1964, there is an exception to the requirement of paragraph (a) (1) of this section if the employer has on file with his records kept pursuant to Part 516 of this title an unrevoked written statement of the Administrator of the Bureau of Work Programs or his representative setting out the periods which the minor will work and certifying that his health and well-being, countersigned by the principal of the school which the minor is attending with his certificate that such employment will not interfere with the minor's schooling.

PERMITTED OCCUPATIONS FOR 14- AND 15-YEAR-OLD MINORS IN RETAIL, FOOD SERVICE, AND GASOLINE SERVICE ESTABLISHMENTS

14- and 15-year-old minors may be employed in —

(1) OFFICE and CLERICAL WORK (including operation of office machines).
(2) CASHIERING, SELLING, MODELING, ART WORK, WORK IN ADVERTISING DEPARTMENTS, WINDOW TRIMMING and COMPARATIVE SHOPPING.
(3) PRICE MARKING and TAGGING by hand or by machine; ASSEMBLING ORDERS, PACKING and SHELVING.
(4) BAGGING and CARRYING OUT CUSTOMERS' ORDERS.
(5) ERRAND and DELIVERY WORK by foot, bicycle, and public transportation.
(6) CLEAN UP WORK, including the use of vacuum cleaners and floor waxers, and MAINTENANCE of GROUNDS, but not including the use of power-driven mowers or cutters.
(7) KITCHEN WORK and other work involved in preparing and serving food and beverages, including the operation of machines and devices used in the performance of such work, such as, but not limited to, dishwashers, toasters, dumbwaiters, popcorn poppers, milk shake blenders, and coffee grinders.
(8) WORK IN CONNECTION WITH CARS and TRUCKS if confined to the following:
Dispensing gasoline and oil.
Courtesy service.
Car cleaning, washing and polishing.
Other occupations permitted by this section

BUT NOT INCLUDING WORK:
Involving the use of pits, racks or lifting apparatus or involving the inflation of any tire mounted on a rim equipped with a removable retaining ring.

(9) CLEANING VEGETABLES and FRUITS, and WRAPPING, SEALING, LABELING, WEIGHING, PRICING and STOCKING GOODS when performed in areas physically separate from areas where meat is prepared for sale and outside freezers or meat coolers.

IN ANY OTHER PLACE OF EMPLOYMENT

14- and 15-year old minors may be employed in — any occupation EXCEPT the excluded occupations listed below:

14- and 15-year-old minors may not be employed in—

(1) Any MANUFACTURING occupation.
(2) Any MINING occupation.
(3) PROCESSING occupations (except in a retail, food service, or gasoline service establishment in those specific occupations expressly permitted there in accordance with the foregoing list).
(4) Occupations requiring the performance of any duties IN WORKROOMS OR WORKPLACES WHERE GOODS ARE MANUFACTURED, MINED, OR OTHERWISE PROCESSED (except to the extent expressly permitted in retail, food service, or gasoline service establishments in accordance with the foregoing list).
(5) PUBLIC MESSENGER SERVICE.
(6) OPERATION OR TENDING or HOISTING APPARATUS or of ANY POWER-DRIVEN MACHINERY (other than office machines and machines in retail, food service, and gasoline service establishments which are specified in the foregoing list as machines which such minors may operate in such establishments).
(7) ANY OCCUPATIONS FOUND AND DECLARED TO BE HAZARDOUS.
(8) OCCUPATIONS IN CONNECTION WITH:
   (a) TRANSPORTATION of persons or property by rail, highway, air, on water, pipeline or other means.
   (b) WAREHOUSING and STORAGE
   (c) COMMUNICATIONS and PUBLIC UTILITIES
   (d) CONSTRUCTION (including repair)
   Except Office or Sales Work in connection with these Occupations (not performed on transportation media or at the actual construction site).
(9) ANY OF THE FOLLOWING OCCUPATIONS IN A RETAIL, FOOD SERVICE, OR GASOLINE SERVICE ESTABLISHMENT:
   (a) WORK performed IN or ABOUT BOILER or ENGINE ROOMS.
   (b) Work in connection with MAINTENANCE or REPAIR OF THE ESTABLISHMENT, MACHINES or EQUIPMENT.
   (c) OUTSIDE WINDOW WASHING that involves working from window sills, and all work requiring the use of LADDERS, SCAFFOLDS or their substitutes.
   (d) COOKING (except at soda fountains, lunch counters, snack bars, or cafeteria serving counters) and BAKING.
   (e) Occupations which involve OPERATING, SETTING UP, ADJUSTING, CLEANING, OILING, or REPAIRING power-driven FOOD SLICERS and GRINDERS, FOOD CHOPPERS and CUTTERS, and BAKERY-TYPE MIXERS.
   (f) Work in FREEZERS and MEAT COOLERS and all work in PREPARATION OF MEATS for sale (except wrapping, sealing, labeling, weighing, pricing and stocking when performed in other areas).

(g) LOADING and UNLOADING GOODS to and from trucks, railroad cars or conveyors.
(h) All occupations in WAREHOUSES except office and clerical work.

AGE CERTIFICATES

An employer can protect himself from unintentional violation of the minimum age provisions by obtaining and keeping on file an AGE OR EMPLOYMENT CERTIFICATE for each minor employed, showing the minor to be of the age established for the occupation in which he is employed. Employers should obtain such a certificate and have it on file before the minor starts work.

Age or employment certificates, sometimes called work permits or working papers, issued under State child labor laws are accepted as proof of age in 45 States, the District of Columbia, and Puerto Rico. Special arrangements for proof of age have been made in Alaska. In 4 States — Idaho, Mississippi, South Carolina, and Texas — Federal certificates of age are issued by the Wage and Hour and Public Contracts Divisions.

Age certificates have the twofold purpose of (1) protecting minors from harmful employment as defined by the child labor provisions of the act; and (2) protecting employers from unintentional violation of the minimum age provisions of the act by furnishing them with reliable proof of age for minors employed in their establishment. This protection is specifically authorized by the art.

To make sure that the minors in their employ are of legal age under the act, employers are urged to obtain an age certificate for every minor claiming to be under 18 years of age before employing him in any occupation, and for every minor claiming to be 18 or 19 years of age before employing him in any of the nonagricultural occupations declared hazardous.

The age certificate protects the employer only if it shows the minor to be of the legal age for the occupation in which he is employed.

If any employer has any difficulty in obtaining age certificates for minors he wishes to employ, he should notify the nearest office of the Wage and Hour and Public Contracts Divisions (see pp. 31 and 32) or the Bureau of Labor Standards, U.S. Department of Labor, Washington, D.C. 20210.

PENALITIES FOR VIOLATION

The act provides, in the case of willful violation, for a fine up to $10,000; or, for a second offense committed after the conviction of such person for a similar offense, for a fine of not more than $10,000; or imprisonment for not more than 6 months, or both. The Secretary of Labor may also ask a Federal district court to restrain future violations of the child labor provisions of the act by injunction.

STATE CHILD LABOR LAWS

Every State has a child labor law and all but one has a compulsory school attendance law. Whenever a State standard differs from a Federal standard, the higher standard must be observed.

APPENDIX I

FUTURE OUTLOOKS

It is impossible to predict exactly what the outlook for future employment will be. We look at *trends* in the way people are now employed to see where needs may exist in the future.

For example, the demand for teachers will decrease over the next several years because of the current trend in which more teachers are being trained than there are jobs to employ them.

Within the whole world of work, there is another trend which shows attention shifting from manufacturing goods to providing services. This may signal a decrease in certain skilled and unskilled labor opportunities in the 1980's.

Technological advances in farming are decreasing the demand for farm workers, but increasing the need for scientific and technical occupations. Many times a person may discover new careers related to more traditional ones.

Another point to keep in mind is that any predictions made about the future are only predictions and they may be right or wrong. Some guidance counselors do not discourage students from entering training for any of the careers in which they may be interested.

A helpful approach to career selection would include:

a. self-assessment — learning about your own interests, abilities, and aptitudes;
b. observation — visiting classes, taking field trips, and so forth;
c. interviewing — asking others for information about their jobs and activities;
d. conversation — generally talking with students, teachers, counselors, employers and employees;
e. reading — using printed sources of information; and
f. researching — using all of these resources to learn as much as possible about a particular interest.

The following list includes specific occupations for which there is a favorable outlook in the 1980's. This information was taken from the Occupational Outlook Handbook in Brief, 1976-77 Edition.

Industrial Production and Related Occupations
Lithographic workers
Boilermaking workers
Manufacturing inspectors
Ophthalmic laboratory technicians
Photographic laboratory workers
Wastewater-treatment plant operators

Office Occupations
Collection workers
Receptionists
Typists
Computer programmers
Systems analysts (computer)
Bank clerks
Bank officers
Accountants
Buyers
City managers
Credit managers
Marketing research workers
Purchasing agents
Urban planners

Service Occupations
Pest controllers
Bartenders

(Service Occupations continued)
Cooks and Chefs
Government construction inspectors
Government health and regulatory inspectors
State Police officers

Education and Related Occupations
Secondary school teachers (math, industrial arts, special education and some vocational-technical subjects)
Library technicians and assistants

Sales Occupations
Securities salesworkers

Construction Occupations
Ashestors and insulation workers
Drywall installers and finishers
Elevator constructors
Glaziers
Construction machinery operators
Plumbers and pipefitters
Roofers

Occupations in Transportation Activities
Airplane pilots
Flight attendants
Airplane reservation, ticket and passenger agents

Scientific and Technical Occupations
Forestry technicians
Agricultural engineers
Biomedical engineers
Ceramic engineers
Chemical engineers
Civil engineers
Electrical engineers
Industrial engineers
Mechanical engineers
Petroleum engineers
Geologists
Geophysicists
Biochemists
Statisticians
Food Scientists
Physicists
Drafters
Engineering and Science Technicians
Surveyors

Social Service Occupations
Rehabilitation counselors
Roman Catholic Priests
Recreation workers
Social service aides
Social workers

Art, Design and Communications Occupations
Building architects
Landscape architects
Floral designers

Health Occupations
Dental assistants
Dental hygienists
Dental laboratory technicians
Dentists
General practice physicians
Pediatric physicians
Internal medicine physicians
Electrocardiographic technicians
Electroencephalographic technicians
Medical assistants
Medical laboratory workers
Medical records technicians and clerks
Operating room technicians
Optometric assistants
Respiratory therapy workers
Licensed practical nurses
Nurses aides, attendants and orderlies
Occupational therapists
Occupational therapy assistants
Physical therapists
Physical therapist assistants and aides
Speech pathologists
Audiologists
Dieticians
Dispensing opticians
Health services administrators
Psychologists

Mechanic and Repairer Occupations
Air-conditioning, refrigeration and heating mechanics
Boat motor mechanics
Business machine repairers
Computer service technicians
Diesel mechanics
Electric-sign repairers
Industrial machine repairers
Instrument repairers
Locksmiths
Motorcycle mechanics
Television and radio service technicians
Truck mechanics